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VIEW OF THE TEMPLE OF MATER MATUTA—CALLED BY PIRANESI, TEMPLE OF CYBELE—IN THE PIAZZA BOCCA DELLA VERITA, ROME.

GIOVANNI BATTISTA PIRANESI, DEL.

The columns of the Portico were walled up and the building for centuries was used as a Christian Church. The tile roof shown replaced the original roof of the Temple. The building is standing to-day in a very much altered condition.

THE BRICKBVILDER

VOL. 18 NO. 2 DEVOTED TO THE INTERESTS OF ARCHITECTVRE IN MATERIALS OF CLAY FEBRUARY 1909

Gymnasiums—Their Plan and Equipment—I.

BY M. B. REACH.*

MY EFFORTS in what follows will be directed toward pointing out certain conditions of building construction and design favorable and unfavorable to the equipment and operation of modern gymnasiums.

As a manufacturer of apparatus I have in the course of twelve or fifteen years' experience seen many kinds of gymnasiums and been brought into contact with many kinds of construction—some good—some otherwise. Considering the various ins and outs of gymnasium equipments, the variety of work called for by different exponents of physical training and the totally different demand in the nature of the buildings therefor, it is small wonder that the "otherwise" predominates.

SHAPE OF ROOM.—In starting with the shape of the gymnasium room, I perhaps possess some advantage over the architect who has his building plat and general plans to consider first, whereas they come last with me. It will be understood, however, that I am drawing up conditions that are more or less ideal. We can hardly ever hit the ideal aimed at but it is a truism that to keep as close as possible is desirable. This statement involves another. The "ideal" gymnasium, as I have before intimated, varies according to individual views. Having been brought into contact with many units I will take my stand on a basis that would, I believe, be established by a majority, were a vote polled on the questions at issue.

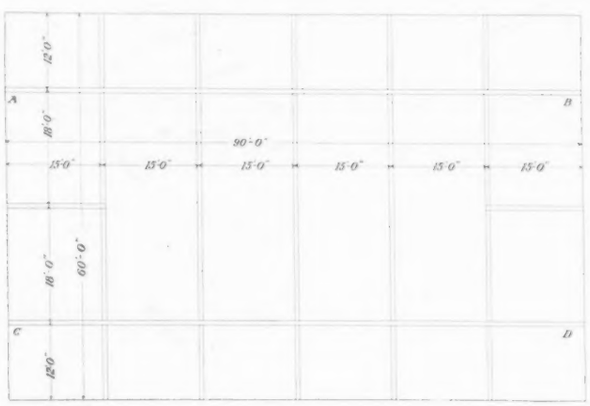


FIG. 1.

The proportion of length to width should approximate three to two. I think this opinion would obtain in all sorts and kinds of gymnasiums. For convenience and arrangement of apparatus, formation of classes, and design of running track this shape serves best.

HEIGHT.—The height, which is of much importance, should be not less than eighteen feet, nor more than twenty-two feet. It will be understood that I refer to the attaching point of overhead apparatus. Frequently the actual ceiling height will be found, and advantageously so, much more than this. The trusses in such cases, however, should conform to the minimum and maximum measurements above given. Many times where the gymnasium forms only one room in a building of many rooms, such as in a school for instance, it becomes impossible to even preserve the eighteen foot minimum. In such cases hold as close as conditions permit. Good work is done in many gymnasiums where the ceiling is of less height, but as a rule it will pay to revise plans in order to produce the required height. Besides adding many good and needed cubic feet of oxygen you adapt the room to the purpose for which it is designed, from a practical working standpoint. A low ceiled gymnasium is about as appropriate as an equally low auditorium.

Where ceiling or truss heights are greater than twenty-two feet it involves dropping down a pipe frame to proper distance. This is always expensive. It certainly is inartistic and seemingly an appendix to what presumably stands for a carefully worked out plan.

TRUSSES.—In designing truss work, and speaking purely for the relation of trusses to apparatus and eschewing any thought in their co-relation to the building proper (which is to be left in the hands of the architect), the plan shown in Fig. 1 is excellent.

The same recommendation would prevail in the location of longitudinal ties or stringers—A-B, C-D—were a gallery or running track installed, providing the gallery was not over six feet. In a gymnasium of this size that width of track should not be exceeded, and under no conditions whatever is a gallery or track less than five feet to be recommended.

These longitudinal ties on either side (which are always needed for the support of certain classes of suspended apparatus best placed at about this distance from wall) could be replaced by three inch wrought iron pipe and a lengthwise support for apparatus obtained in this way.

*Manager, Gymnasium Contract Department of A. G. Spalding & Bros.

Usually such pipe would be installed by the outfitter of the gymnasium at about fifty cents per running foot. I have outfitted gymnasiums, some of them large ones, originally designed without any longitudinal braces whatever. This elimination not only created a deficiency in points for overhead support, but discounted the value of the trusses for similar purposes for the reason that swinging apparatus attached to the trusses minus the lengthwise support will cause a great amount of vibration. I recall one gymnasium where it required three lengths of three inch pipe, from end wall to end wall, before the overhead work was sufficiently stable to accommodate the apparatus demanded for it.

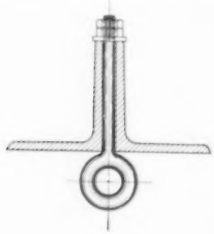


FIG. 2.

In the plan shown the trusses are fifteen feet apart. While not arbitrary, that is a good distance for such overhead apparatus as may require guying from truss to truss, and is a safe spread for extra pipe supports that are sometimes needed in working out schemes for overhead fixtures, hoists to remove apparatus, etc.

FIXTURES. — Following are some sketches suggesting clamps used in suspending apparatus under varying conditions. (See Figs. 2, 3, and 4.)

Fig. 2 is the simplest, neatest, and best. Seldom, however, do we find sufficient space between angles (one half inch required), and sometimes there is the space but it is choked by the conduit carrying the electric light wires. It is always desirable to run such wires above the flange. This seems like making much over a simple matter, but past experiences sustain the position and warrant the expression of it.

Fig. 3 is a common form of clamp used by my company and needs no comment.

Fig. 4 shows a clamp for a truss which is concealed and covered with wire mesh and plaster. In planning a gymnasium calling for this construction it is desirable to have bolts dropped down from the truss and a two inch yellow pine plank bolted to the ceiling before being finished. Details of this sort where worked out beforehand add to the general appearance and economize on the installation, otherwise where clamps need to be attached it becomes necessary to cut away wire and plaster, and when not concealed by the board, replastering is necessary, patchy, and expensive.

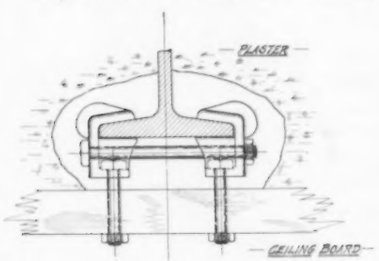


FIG. 4.

Assuming that the maximum height can be observed in providing the overhead point of attachment, the under side of the gallery, where there is one, should be ten feet from the floor. This measurement is given as a desirable minimum.

WINDOWS.—The placing of windows must of necessity depend upon general lighting conditions. It may be pointed out, however, that the majority of wall apparatus is attached at points from five to eight feet from the floor — chest weights at five feet, bar stalls at eight. These two types of wall apparatus are used in quantity for class work and allowance should be made for their proper installation. It is desirable to have one good wall, either free from windows, or windows placed above the height required for apparatus. This is seemingly an easy matter when the room is free from running track or gallery, but I have seen windows intersected by the running track, and a good arrangement it proved. In this case the lower part of the windows only would need to be screened. Ample light is given to the floor, and the running track is equally well cared for. The various games of ball played in modern gymnasiums make it compulsory that the panes be protected.

SKYLIGHTS. — In connection with this feature I do not consider a broad expanse of glass overhead at all desirable. Some of our best gymnasiums so equipped are practically put out of commission in the late spring months on account of intense heat. Skylights set in a monitor roof have always seemed to me the ideal method of distributing light in the upper gymnasium.

The director of a well known gymnasium was obliged to place draw curtains entirely across the upper part of the room in order to make the work on the floor possible as warmer weather approached. In this same gymnasium our men were asked to ring with chalk any spots in the floor that established a leak overhead. With the first hard rain they began to get busy and finally in despair plumbed down from the extreme edges of the glass roof and circled the entire floor. The question of leak is, no doubt, entirely a question of mechanics and workmanship, but the objectionable heat from the sun is condemned by those directors, who labor under these conditions, as impracticable and undesirable.

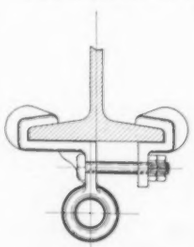


FIG. 3.

LOCATION OF HEATING FIXTURES. — The same thought governing the location of windows should prevail in the placing of heating coils. Let them do their work properly but keep them out of the way. Many equipments have been curtailed and the work in the gymnasium handicapped owing to inappropriate placement of fixtures of this kind. Similar precautions

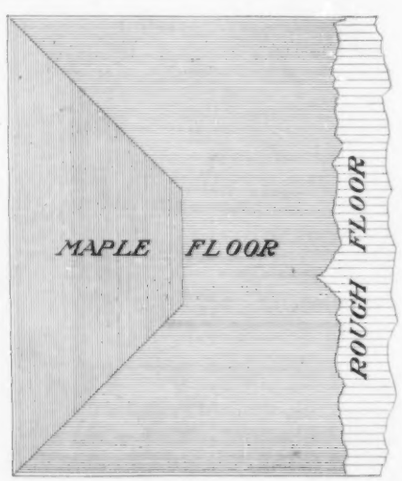
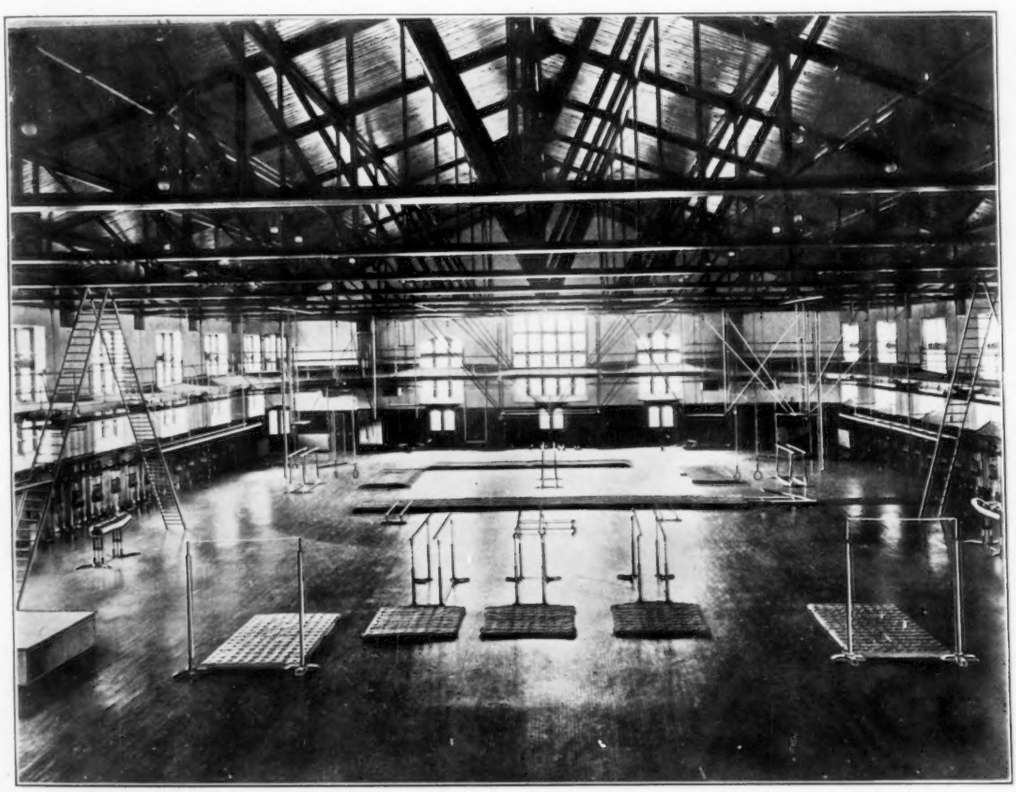


FIG. 5.

GYMNASIUM,
UNIVERSITY
OF
PENNSYLVANIA.
Approximate
size
145 feet by 70 feet.



GYMNASIUM,
PRINCETON
UNIVERSITY.
Approximate
size
160 feet by 101 feet.

The floors of these Gymnasiums may be easily and quickly cleared of all apparatus.

should be observed in determining the position of hot air ducts along the ceiling. Frequently I have seen overhead space so cut into as to preclude the possible installation of any adequate amount of suspended apparatus. I have recollections of school gymnasiums where congested attendance demanded the maximum amount of work from the allotted space and this work curtailed because plumbers and pipe fitters had been allowed to spoil what otherwise would have proven a good working plant. A good physical director may well feel discouraged where his work is handicapped by conditions of this sort.

Flooring.—Maple is the preferable wood for the finished floor. All gymnasiums should have a rough, and finished, flooring. This seems like an obvious condition and is mentioned only because I have outfitted one or two prominent gymnasiums where a single maple flooring (one inch) was laid across sleepers embedded in concrete. It is to be borne in mind that more or less apparatus is frequently guyed to the floor, which must therefore be made to withstand this upward pull and strain. Many kinds of apparatus are attached to iron plates which are set in flush. Cut away a one-inch dressed floor to insert a three eighth inch thick plate and little is left for screwhold. I would recommend a rough floor of one and one half inch to two inch thickness; a finished floor of one and one eighth inch to one and one half inch.

The best floors I have seen, and theoretically the correctly laid ones, follow the lines of the walls, forming a design as shown in Fig. 5.

Much of the class drill work in a gymnasium calls for marches and runs around the room, and frequently gymnasiums are used for social events, dancing, etc., in which cases wearing is more evenly distributed over a floor laid as shown in Fig. 5, as it follows the grain of the wood.

Types of Gymnasiums. — The foregoing observations, being general in character, may apply to any average gymnasium. There is, however, a differentiation in the treatment of equipments that divides gymnasiums into groups of individual types and makes necessary a corresponding differentiation in the interior design of the building proper. It is with some of these types that I will undertake to deal and endeavor to point out by explanation and plans certain problems that influence the demands on the architect and builder. These will be separated or characterized as follows:

Athletic Recreation Gymnastics	University Preparatory School Y. M. C. A. High School	
Recreation Gymnastics	Armory Club Private Women's Gymnasium	
Co-educational Gymnastics	College School Church Public Municipal	
Playgrounds	Interior Equipment Playground Equipment	Division of sexes and ages
Indoor Running Tracks		

The Housing Problem—I.

BY GEORGE B. FORD.

IN THINKING over the many and various phases of architecture, have you ever chanced to consider the relative quantity of each class or kind of buildings erected? There is one class that predominates all others, and as you consider the question you will see that this class exceeds in number of constructions all the others put together. I refer of course to the human habitation. Consider again: who for the most part inhabit these dwellings; who form the great majority of the world's population? Is it the proprietor with a certain means or is it not rather the "masses,"—those whose small incomes and large family expenses will not permit of their possessing homes of their own? (If anyone doubts this he has but to remember that in New York City only one person in forty-three owns his own home.) Let us carry this idea a little farther and ask, what one class of habitation it is which affects the greater part of the lives of the great majority of human beings?

Low Cost Habitation. — Can the answer to this be other than "The habitation at low rent"? Consider for a moment what the question of the habitation of the "masses" may embody; its immense importance as a factor either for or against a real home life, especially in the rearing of children; how the character and design of the dwelling itself may make for happiness or unhappiness, for uplifting or debasing, for good, useful, helpful lives, or for useless, immoral lives. It is out of place to dwell on this feature of the question here, for sociological and religious publications are constantly showing the effect of environment on the individual. But what does interest us is how much this problem of the habitation at low rent and cost (or in general the "Low Cost Habitation") affects the architect.

We must admit frankly that it has affected him very little indeed. Why? Because the majority of those who promote such structures either do not know what the word architect means or they believe that they can plan the structure just as well themselves and thereby save the architect's fee. Can the architects blame them? What have architects accomplished so far in America to improve low cost habitations?

The Data.—Look through your files of magazine plates and see what you can find on this subject. Of model detached country houses at low cost there are a few, most of which have appeared within a very few years. Of suburban connected houses at low cost there is a much smaller number. Of city or suburban tenements with several apartments on each floor, small suites and low rental, there are almost none, the only notable exception being the publication of the Phipps Houses No. 1 in New York (the writer of these articles has been living in these latter almost since their opening) in The Brickbuilder for September, 1907. And of habitation within the reach of the poor, the really poor, absolutely nothing has been published. Here is a subject which directly affects more people more hours a day than all other phases of architecture put together, and yet we find that there is no phase of architecture so neglected as this, no phase on

which the architect can find so little enlightenment, so few records, as on the subject of low cost habitation.

Effect on the Architect. — Many architects will say, "what is this question of low cost habitation to me? I have built several cheap houses, but I cannot afford to be bothered with them now." True, so far, but consider what are the tendencies of the times. We all know that enormous fortunes are being accumulated, and that there is a rapidly increasing tendency to expend them in ways which will help one's fellow men to ameliorate the conditions of living, and, that they are being spent more and more in the prevention of the causes of life's struggles and privations.

In what better way can these millions be expended? How can families be better helped than by giving them the brightest, cleanest, airiest, cosiest, cheeriest, most homelike environment that human ingenuity can devise? This is where we enter the province of the architect.

Tendencies. — How do we know that philanthropists and others are going to turn their attention in this direction? Observe the importance with which the question is looming up on the other side of the water. In Paris there are many societies for building low cost habitations — the great Rothschild's housing movement — and, greatest of all, the proportion of the new $100,000,000 appropriation to improve the city, which will be expended on better "Habitations à Bon Marché." Look at Germany and note all that is being done in the way of municipal housing in Berlin, Stuttgart, Hanover, Munich, etc.; Belgium, Italy, and Austria the same; and then look at England where in London alone some $125,000,000 have already been spent in improved low cost housing. Have you ever heard of the Brooklyn Model Tenements of Alfred T. White and the Pratt Institute; of the City and Suburban Homes Company with its many acred town of Homewood and its many blocks of model tenements in New York; of the big houses of the New York Fireproof Tenement Association; of the Shepard, Lee, DeForest, Bishop, or Stone model tenements; of the Phipps Houses No. 1, No. 2, or No. 3 (the second for colored people), of the Mills Tenements, or of the Mills Houses No. 1, No. 2, or No. 3 for working men; or of the new municipal lodging houses? Not only these, but have you noticed all the space recently given in the papers to questions of congestion of population in New York City with graphical illustrations of the evils of our present living conditions; and the interest they have aroused in all classes of people? And more particularly the work that is being done in housing research under the direction of the Sage Foundation. Ponder on these and see if you can believe other than in an immense impetus in intelligent building of model low cost dwellings.

What the Question Includes. — It is now time to see just what this question means and just what it includes. The man who has unlimited money to spend, and even the man who has a moderate amount to spend, can have pretty much what he wants in the way of a dwelling wherever he may be, but the rest of the world must take what they can get, and what they can get depends largely on where they live.

Classification. — In any case people must live in one of two general types, i.e., the house where there is only one family under a given roof, or the tenement where more than one family lives under a given roof. The former type admits of a lawn or garden or both to each family, the latter does not. Each of these types may be divided into three classes, i.e., single, double, or multiple buildings. The single house or single tenement is where for a given building there is only one family on a floor, thus having light on four sides; the double house or double tenement is where there are two families on a floor with a party wall between, thus giving each family light on three sides; and the multiple house or multiple tenement is where there are three or more families on a floor separated from each other by party walls, thus receiving light only from two opposite sides at most.

There are of course other places in which one lives such as boarding houses, lodging houses, and hotels, but in every case they are alike in being non-housekeeping places of abode, and as such may be classed under the generic head of lodgings, distinguished only as they are by party walls or not. Each of these classes has its peculiar problems and with that in view we will treat them in turn.

Phases of the Housing Question. — The housing question in general is a broad one. It interests many different kinds of people from many different points of view. There are the various social, ethical, moral, and religious phases, which may interest us individually, but which have no direct bearing on architecture as a profession.

Then there are the purely practical questions of financing and management of dwellings of whatever sort, and there is the question of ownership, whether it be private, cooperative, or municipal; in the former case whether the private ownership be that of an individual, a partnership, a society, or a corporation. There is the question of raising the money to pay for the building, with all the questions as to building loans and their replacing by permanent loans; where to place a loan and through whom; conditions of contract, etc.; or whether the building be built through a cooperative building society or bank. There is the question of the purpose of the building, whether it be built as a speculation with the idea of selling it as soon as possible, or as an investment, or as a philanthropy pure and simple, or as an investment philanthropy. This latter question affects the architect closely, making a large difference in his design for a given lot. Then there is the question of management, whether it be superintended in person and the rents collected in person or whether it be done by some outside agent or agency. In the latter case it is again a question of whether the superintendents be men or women; the experience both in London and in the City and Suburban Homes Company in New York being that the "Octavia Hill" principle of women as collectors is particularly successful. The reason for this is that, thanks to their intuition and tact, women seem to "get on" with the tenants much better than do men.

There is also the question of repairs, by whom they should be made and how often; involving as it does the question of the original construction as to whether the building be constructed with an eye to permanency or not.

Phases of Especial Interest for the Architect. —

With a perusal of the subject many other smaller questions arise but none of more than general interest to the architect. For him the three questions are: materials, construction, and design, whatever type of house it may be. I will take up each of these questions in the above order and see what experience has to teach us to date. Materials and construction are so closely related however that they should be considered together.

Construction and Materials, Fireproof or Not. — The first question naturally is whether the building should be fireproof or not. Let us consider the tenement first. Just here there is considerable difference of opinion. The New York Fireproof Tenement Association Houses and the other more recent smaller tenements by Ernest Flagg are fireproof. The Phipps Houses No. 1 are fireproof, the Mills Hotels are fireproof, also several of the smaller model tenements. On the other hand the City and Suburban Homes tenements which in total area exceed all of the others combined are fireproof only as to stairs and corridors, the rest being constructed with wooden joist floors and wood stud partitions between brick exterior and party walls. The City and Suburban Homes Company, together with ninety-nine one hundredths of the tenement builders in New York, argue that the fire risk is so very small that the extra cost of fireproofing the whole building might much better be used where it would count for more. Mr. Ernest Flagg in an article in the October 6, 1906, issue of "Charities and Commons" argues that the extra cost of fireproofing the whole building beyond the necessary cost of fireproofing the stairways is nearly compensated for by the space gained through the thinning down of all the walls, partitions, and floors; by the decreased depreciation and by the saving in insurance rates. In view of the fires and loss of life that has occurred of late in New York tenements there would seem to be a moral argument at least in favor of the fireproof tenement.

As to materials, the steel frame encased in terra cotta or concrete with terra cotta or reinforced concrete floors sum up the general usage. I know of no instance of a model tenement in America entirely of reinforced concrete. The majority of the European tenements are practically fireproof with fireproof stairs and halls, floors of heavy joists between brick walls and partitions, the joists being filled in between and topped over with concrete; a durable and cheap construction where labor is not high. Other things being equal a fireproof tenement has everything in its favor; the lives of the tenants are safer, the house is cleaner — there being less chance for the wandering about of vermin or the infiltration of dust — the building is more durable, it is much more nearly sound proof thereby giving far more privacy to each family (a great advantage morally, as well as physically), it is warmer in winter and cooler in summer. Are not these considerations of enough weight to compensate for a little extra first cost? With the increasing cost of wood and the decreasing relative cost of fireproofing materials may we not with a little experimenting find a fireproof construction the actual cost of which, as compared with that of wooden construction, will be such as to force the average investor for his own interest to build fireproof buildings? It is an ideal worth striving for.

When we come to the ordinary double or single tenement house we find in America at least that they are rarely of any construction other than wood with occasional exterior walls of brick. Reinforced concrete has been used of late for such buildings but with what results remains to be seen. Abroad the construction is the same as for the multiple tenement. The multiple house is usually of wood encased in brick walls, of which the great majority of houses in Philadelphia are typical examples. The single and double house is of wood except for the recent experiments with terra cotta and reinforced concrete. Except in Switzerland and Scandinavia, the walls and partitions are always of brick or stone masonry, the floors being like those above described or like our ordinary joist floors except that the joists there are more nearly square in section.

Foundations and Cellars. — As to foundations and cellars there is nothing of importance to note except that the floors are usually of concrete throughout. In Europe outside of the cities the houses rarely have cellars at all, the sod being stripped off, the ground floor raised some two or three feet above the soil, and the underpinning being damp-proofed by a damp course extending through the wall about a foot above the ground.

Walls. — The walls of the houses vary of course with the locality, depending on climate, habit, and natural materials at hand. It is hardly worth while to take this up here. The walls of the tenements, especially the multiple tenements, are practically without exception of brick with trimmings of stone, terra cotta, or other colored brick. For example, the City and Suburban Homes houses are in nearly all cases of a hard, yellow buff brick costing up to $20 per thousand, with sills, lintels, belts, and door jambs of white Vermont marble. Fire escapes, grilles, and railings are of wrought iron painted black. Courts are of a cheaper grade of light colored brick or ordinary brick white-washed. The New York Fireproof Tenement Company's buildings are similar. The Phipps Houses are of a good quality yellow and a good quality red brick with arches and sills of yellow brick, ornament of buff terra cotta, and a base of stone. The window guards, the railings, and the area enclosure grilles are all of heavy wrought iron painted buff. In England the walls are of a gloomy red brick and on the Continent brick or stone masonry covered with cement plaster painted.

Roofs. — The roofs of the houses are of shingle or slate or occasionally flat, covered with tar paper and gravel. Recently roof slabs of concrete have been tried. In the single and double tenements tar and gravel is the rule. In the multiple tenements the same applies to the part reserved for the drying of clothes, wood-slat walks at the proper places preventing undue wear of the roofs. A feature of the Phipps Houses No. 1 and one which deserves being copied is the roof garden across the front of the building. This is covered with tile. Around the edge of it is a high parapet banked with privet and flowers. Around the outside edge of this parapet is a painted tin imitation tile roof sloping down at 45 degrees over the wide projecting cornice. Abroad the roofs are rarely flat. They are usually covered with slates, tin, or flat tile.

When we come to the interiors there is a great diversity of materials.

Floors. — The floors of the houses are usually of soft wood with the expectation of being carpeted. In the tenements they are usually of two or two and one half inch hard pine strips to be stained or painted or carpeted by the tenant as he sees fit. Abroad one often finds floors, except for the living room, of four to six inch tiles painted, the idea being to cover them with linoleum or rugs. This would hardly do, however, in our cold climate. Stair treads in tenements are of slate or Tennessee or Georgia marble, the latter being the more cheerful. The landings and corridors are of cement sometimes painted or of terrazzo or a marble mosaic laid usually with a border motif. The stair railings are of wrought iron; the hand rails are of wood. Abroad the treads are usually of slate though often of wood.

Walls and Partitions. — The interior walls are practically in every case of two or three coat plaster work on 2 by 3 or 2 by 4 studs set flatwise. They should be oil painted, never papered. A mat surface oil painted plaster seems much more durable than any other wall surface and is quite unobjectionable to look at. It should be painted in very light tones — not too cold. In one of the best known model tenements in New York where the walls were painted in olives, Pompeian reds, and chrome yellows, the tenants all complained of the gloominess of the rooms, so that whenever new tenants moved in the rooms were repainted in a much lighter tone to the delight of the tenants but to the detriment of the color scheme. Bath room and toilet room walls are painted with Ripolin or some washable paint. Corridor walls are usually oil painted with the lower half of some dark color that will not show dirt.

Ceilings. — The ceilings are in nearly every case whitewashed so as to give the maximum reflection of light and maximum height effect to the room.

Woodwork. — The woodwork varies, but common practise proves that a hard wood, varnished, wears better and is more economical in the end than a soft wood painted. Ash, chestnut, red oak, and cypress are used, depending on locality and market. In houses, especially single or double, there is a tendency to use soft wood, painted. The latter, too, is the usual practise abroad.

Plumbing. — For closet and bath a simple flush seat without double cover, and with chain flush; a roll rim enameled iron tub painted on the outside; a corresponding wash bowl if such exist, all open and nickel plated or galvanized iron painted is the custom. Floors are cement finished with rounded corners and edges turning up six or eight inches on the walls and painted. In the Phipps Houses the showers in all the two and three room suites are needle spray douches placed just above the shoulder level to give a spray at 45 degrees downward. The sinks are twenty-four inch galvanized iron with a galvanized iron back fifteen inches high in which are the two brass faucets. It is held up in front by two galvanized iron legs. The two tubs adjacent are similarly on galvanized iron legs with galvanized covers. The tubs themselves are of the same material or preferably of white enameled earthenware with a yellow glaze on the outside. There are two brass faucets of two and one half inch projection in each tub. Abroad the sink is usually of enameled earthenware and the tub does not exist.

Heating and Cooking. — Heating is usually by steam with plain silvered radiators in the main rooms and silvered risers in the bedrooms. Just here especial care should be taken to make the openings about all pipes through the floors as tight as possible, consistent with fire laws and pipe expansion, to prevent the passage of vermin, the tenement pest. As to stoves, there is a strong tendency in the later tenements to eliminate them altogether and rely summer and winter on gas ranges with four ring burners on top and oven and hot closet beneath. This rests on a slab of stone or concrete and is ventilated by a flue-opening above. Each apartment should have its own individual flue all the way up to the outer air. Abroad there is usually a built-in range which heats water in the "copper" or boiler. One very rarely sees a gas range there.

Fixtures. — The fixtures are simple and of brass, wired sometimes for future electric light. A quarter meter seems to be the most satisfactory way of supplying gas to the tenant.

Hardware. — As a result of their many experiments the hardware in the City and Suburban Homes tenements is real Bauer-Barff in the most used pieces and imitation in the less used. It wears well. Elsewhere brass is used as sparingly as possible and usually black knobs are used on door handles.

General. — In many of the houses simple, durable roller shade curtains are provided. In some of the tenements small plate glass mirrors are built in.

This gives us a general idea of the details of material and construction. The remaining articles will be devoted exclusively to the design and arrangement of the model tenement and house.

THE Torrens system of land title registration went into effect in New York state on February 1st. A purchaser of land gets his title in the same manner as heretofore, if he so desires, and he may buy or sell during the process of registration without delay or inconvenience. In cases where there is no contest in regard to the title — and in the normal and ordinary case there would be no contest — at the end of twenty days after service is complete judgment of registration can be obtained. The state does not "guarantee" titles under the new law, nor is there any "guarantee" by the state of any of its judgments or decrees. It is clear, however, that an order of court establishing for all time an indefeasible title is a better "guarantee" than a title company's insurance. A registered title is equivalent to a land patent directly from the state. In case of a contest or objection to registration the time to effect registration will, of course, be lengthened. If there is real ground for objection a law suit or bill in equity will be necessary as it has been heretofore.

MEMBERS of the House Committee on Foreign Affairs have agreed to stand behind the Longworth bill which authorizes the appropriation of $1,000,000 annually for the construction of embassies, legations, and consular buildings abroad. The bill was introduced during the last session.

Suggestions for Architectural Study in Western France—II.

BY FREDERICK REED.

THE one redeeming feature to the narrow crooked streets of Brittany is the wonderful picturesqueness of the houses. From a sanitary standpoint we must condemn these relics of medievalism, for in many cities the roof gutters of opposite houses are not over five feet apart while in places they touch each other. Yet their charm to every hamlet is undeniable. At times there will be a row of decayed domestic architecture, the fronts of which will be adorned with excellently carved wooden figures, then again whole streets will have slate façades worked skilfully into geometrical patterns, or perhaps a single house will stand out conspicuously with its granite base supporting the projecting stories and a long sloping roof covered with dabs of golden lichen. Picture the timber houses at Vitré or Vannes, where one's vista is a series of patched roofs either domed or square with fronts that are made of slate supporting semi-circular towers and engaged pillars with curiously carved brackets. Sometimes these façades are carved fantastically, or enriched with paintings, while their sky line is a formation of quaint gables with timber frames. No two cities are richer in this style of architecture than Dinan with her projecting stories upheld by massive beams and Morlaix with her ornateness in slate. Hôtel de Rohan at St. Brieuc is one of the best known buildings of wood and plaster. Other towns that possess many examples of ancient and medieval houses are Dol, Fougères, Guingamp, Le Croisic, Ploërmel, and Auray.

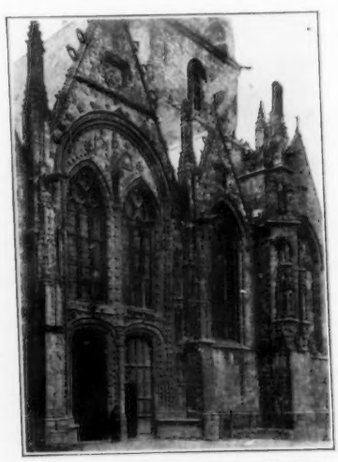
There are several worthy old market buildings throughout this region. One of the most fantastic in all France is the fine old timbered house at Auray, while the picturesque market hall at Le Faouet is a marvel in the construction of its wooden beams. St. Renan also has a very large and theatrical market house, while the cities of Evron, Tréguier, and Huelgoat have typical markets similar to many others scattered over the whole of Western France.

Generally it is advisable to visit all museums. From these collections compiled at considerable expense and time we are able to acquaint ourselves with the diverse types of provincial art. These museums are open to the public on Sundays and Thursdays from ten until four o'clock, while at other times the customary fee will secure admission. It would be tedious to enumerate the various exhibits and to mention even the best subjects contained therein, so we will cite only a few of the most important. Vannes possesses one of the richest collections of antiquities in Europe, Vitré has an especially fine outlay of old French faience as well as some thirty Limoges enamels, while the church of St. Pierre at Chartres contains some choice Limoges enamels by Limosin. So at Rennes, Quimper, Le Mans, Angers, and Carnac one may enjoy interesting displays of pottery, Gallo Roman remains, celebrated tombs, and admirable sculpture.

Once you have reached the heart of Brittany and learned to admire the peasants with their mob-caps and blue blouses, take some of their delightful steamer trips. Leave Vannes for Sarzeau and after a most picturesque sail among the fishing smacks you will enjoy the old summer residence of the Dukes of Brittany, the château of Sucinio and the old convent and abbey church near by. Another profitable

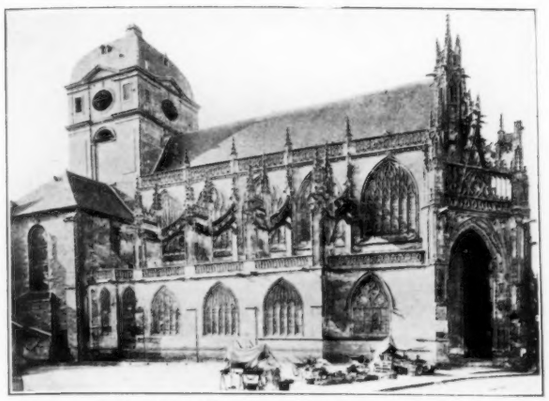
A TOWER OF THE CHATEAU AT NANTES.

ST. LAURENT TOWER AT VITRE.

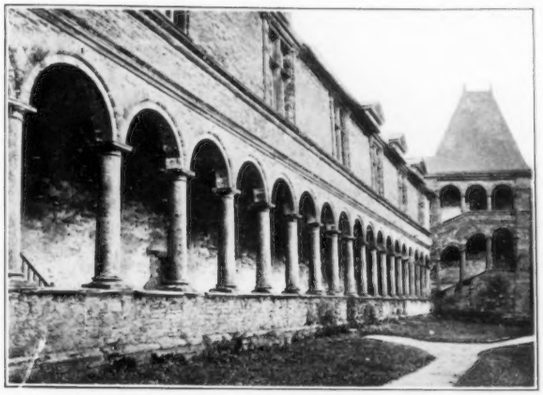


THE CHURCH S. ARMEL, PLOERMEL, WITH ITS LAVISH SCULPTURE.

A CURIOUS FONT.



NOTRE DAME CHURCH AT ALENCON.



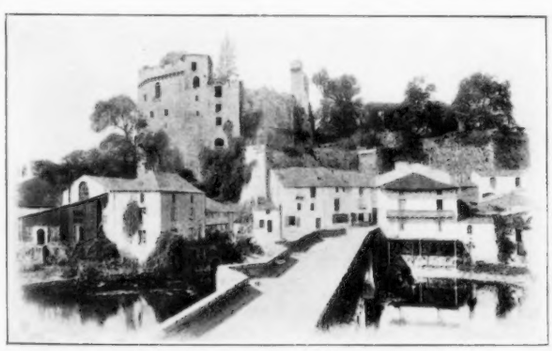
GALLERY OF CHATEAU AT CHATEAUBRIANT.

CHURCH OF ST. JEAN AT NOGENT-LE-ROTROU.

CATHEDRAL AT ST. POL-DE-LEON.

CLOISTERS OF CATHEDRAL AT TREGUIER.

HOTEL DE VILLE AT DREUX.



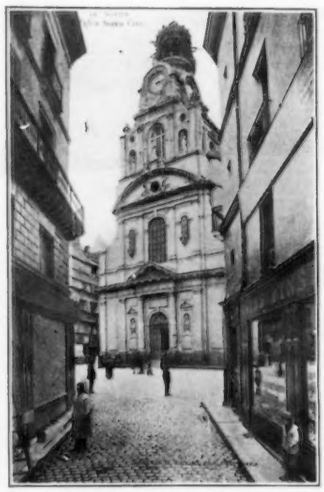
AN OLD FEUDAL CASTLE OF THE THIRTEENTH CENTURY AT CLISSON.

THE MASSIVE TOWERS OF CHATEAU AT NANTES.

trip by boat is from Locmariaquer to Gavr'inis with its well known tumulus and dolmen; the tomb at this place has been excavated recently and measures some three hundred feet in circumference and is thirty feet high. The island of Croix surrounded with cavernous cliffs and containing many interesting megaliths is only a short distance from Lorient. To the Belle-Ile-en-Mer is a charming sail from Quiberon, while the island itself is very attractive in the picturesqueness of the scenery and the old fortifications around the city of Le Palais. The trip from Brest to Landévennec is extremely fascinating for there we find the charming ruins of a sixteenth century abbey. There are countless journeys to enjoy at all points along the coast of Brittany; but if none are taken until reaching the northern shores do not fail to enter that quaint and charming old town, Dinan, by steamer.

ONE OF THE FOUNTAINS FOUND IN MANY CITIES.

CHURCH AT SAINT THEGONNEC.



THE CHURCH STE. CROIX, NANTES.

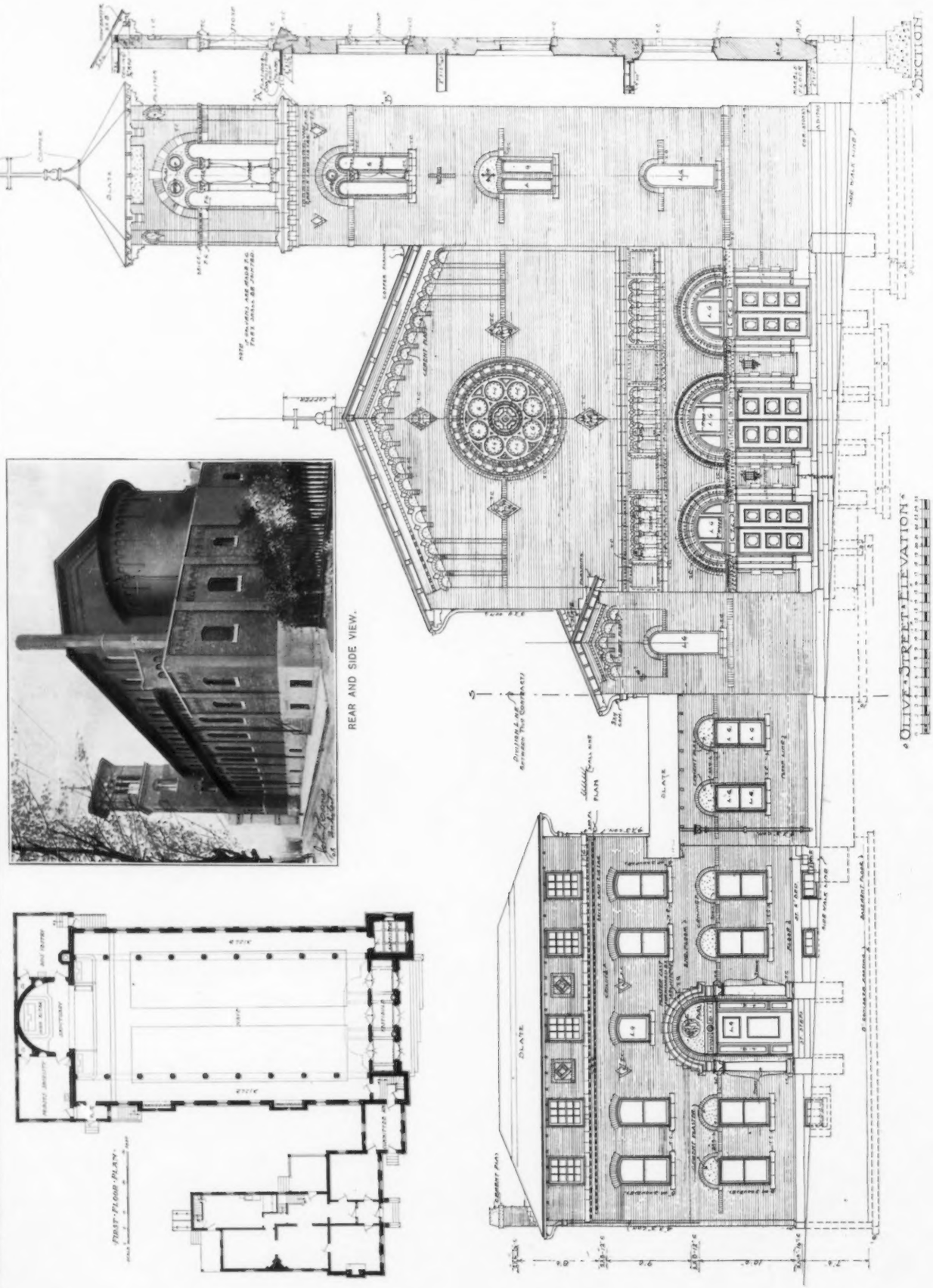
In this country which teems with surprises and delights tramping is the most profitable means of visiting the same. During five weeks the Englishman Jephson covered the most of Brittany in a walking tour — his route is given at the end of the article and would be an ideal trip for the bicycle or automobile. He took with him a waterproof knapsack, writing materials, notebooks, mariner's compass, light rain coat, extra linen shoes, and trousers. In addition to the above we would add a French dictionary, passport, camera, toilet articles, shaving outfit, measuring tape, sketching materials, and a first class guide book. As the majority of people limit their walks to short distances we will suggest a few fascinating journeys among the farmsteads, châteaux, and time honored shrines. At Lannion one could make an early start and enjoy the castles of Coëtfrec, Kergrist, and Tonquédec; the renaissance chapel of Kerfons; and Brevelnez with the noted architectural group of a calvary ossuary, church, and chapels. Another interesting trip, would be from Quimper to Pont l'Abbé

A HOME IN BRITTANY.

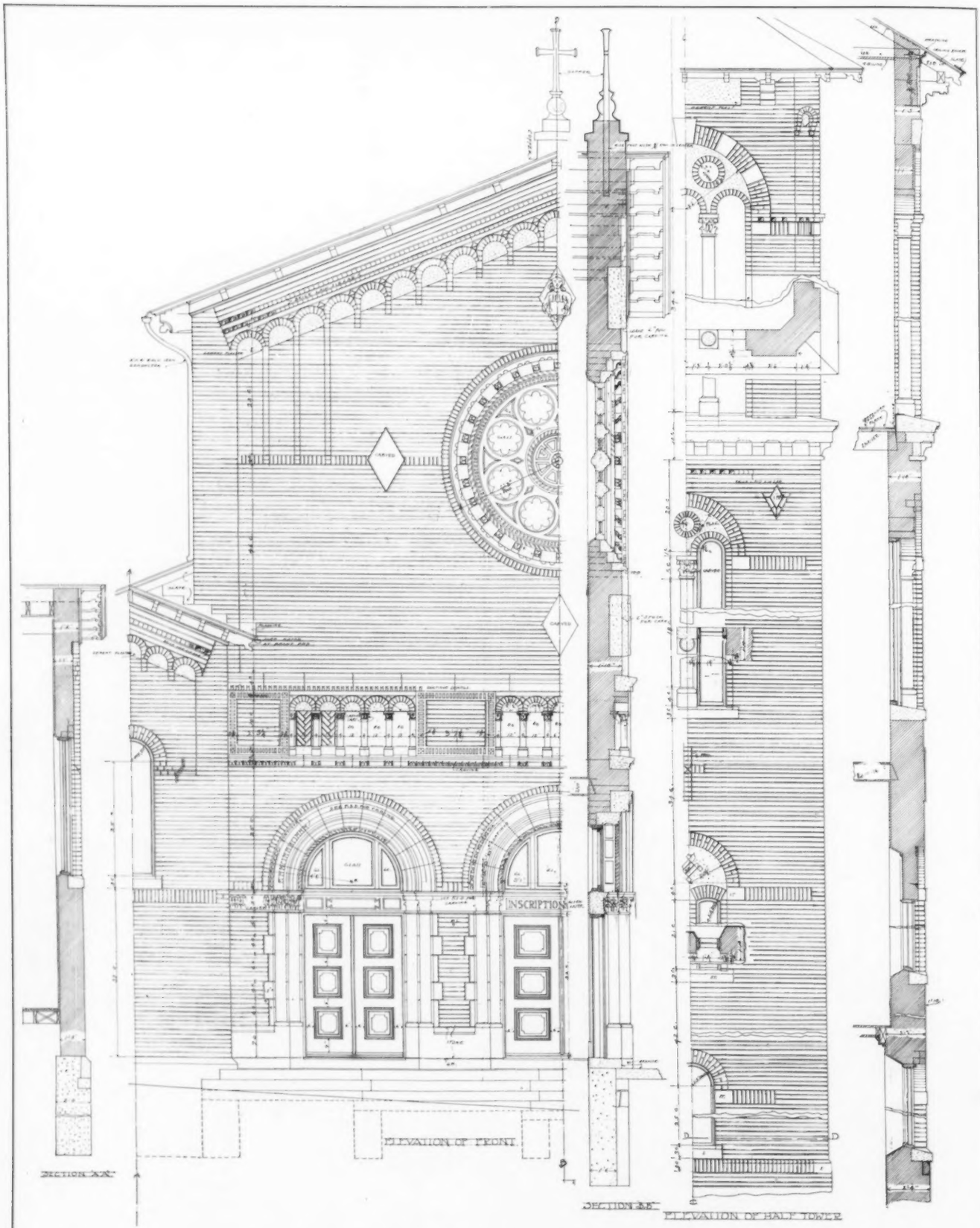
A HOUSE TYPICAL OF WESTERN FRANCE.

AN OLD STREET IN BRITTANY.

ST. MARY'S R. C. CHURCH AND RECTORY, MC KEESPORT, PA.
JOHN T. COMES, ARCHITECT.



ST. MARY'S R. C. CHURCH AND RECTORY, MC KEESPORT, PA.
JOHN T. COMES, ARCHITECT.



DETAILS OF FRONT ELEVATION AND TOWER.

ST. MARY'S R. C. CHURCH AND RECTORY, MC KEESPORT, PA.

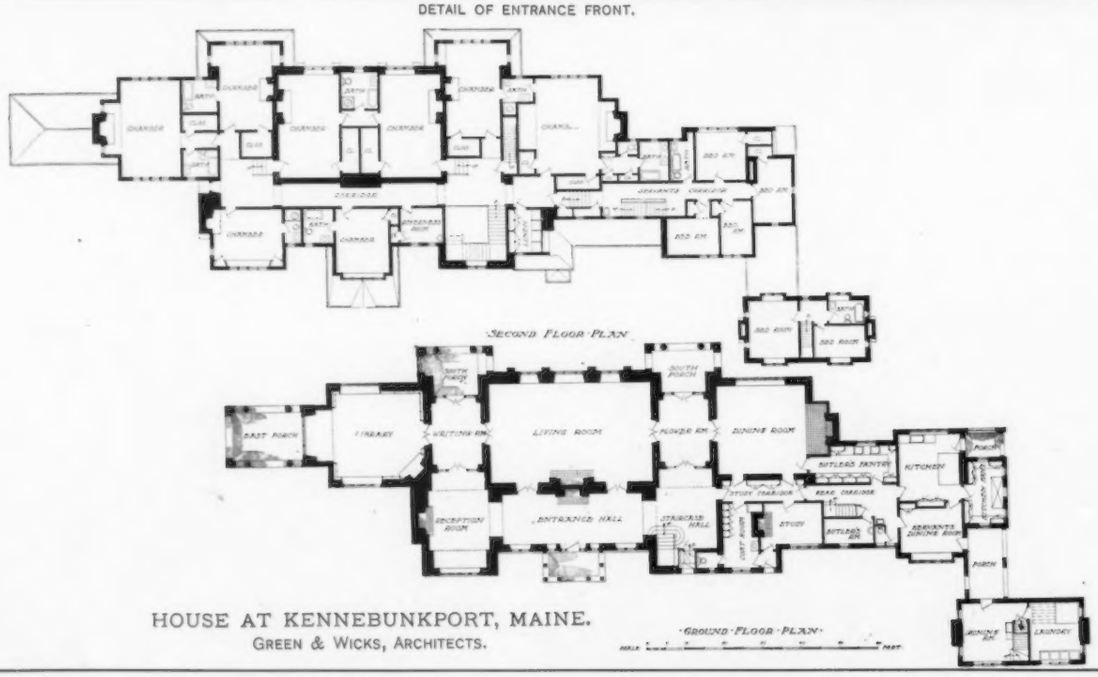
JOHN T. COMES, ARCHITECT.

Plan of First Floor

HOUSE
CAMBRIDGE, MASS.
RICHARD ARNOLD FISHER
ARCHITECT.

Plan of Second Floor

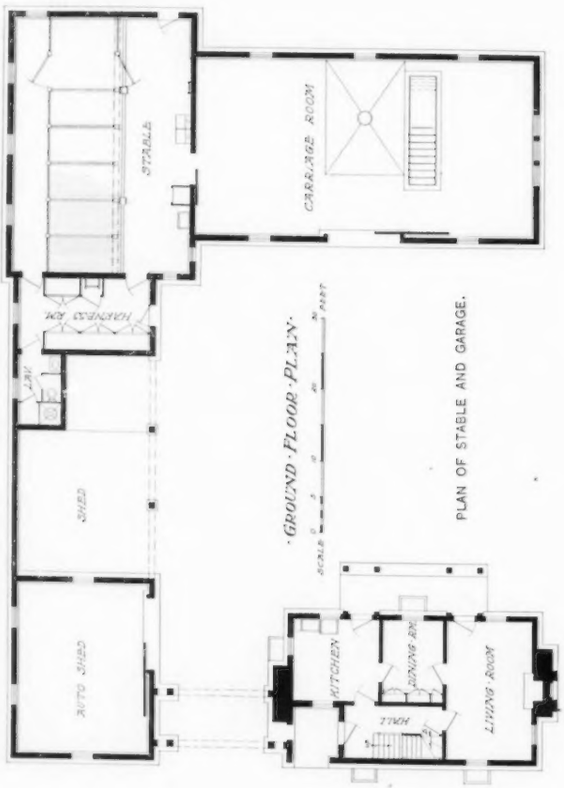
DETAIL OF ENTRANCE FRONT.



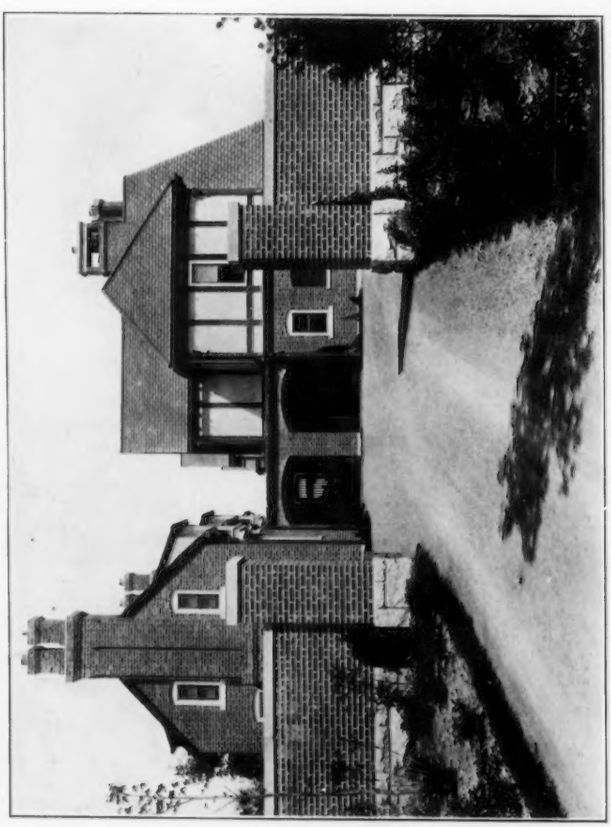
HOUSE AT KENNEBUNKPORT, MAINE.
GREEN & WICKS, ARCHITECTS.

UNIV. OF MICH.

GARDENER'S COTTAGE.



DETAIL OF TERRACE FRONT.



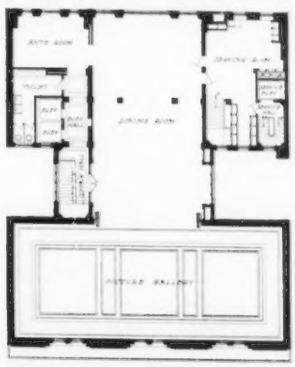
SERVANTS' ENTRANCE.

HOUSE AT KENNEBUNKPORT, MAINE.
GREEN & WICKS, ARCHITECTS.

UNIV. OF MICH.

HOUSE AT KENNEBUNKPORT, MAINE.

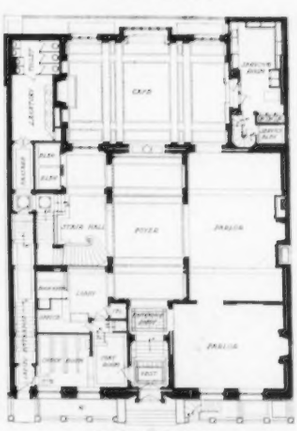
GREEN & WICKS, ARCHITECTS.



SIXTH FLOOR PLAN.

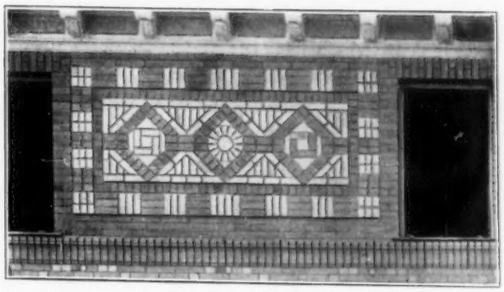
THIRD & FOURTH FLOOR PLANS.

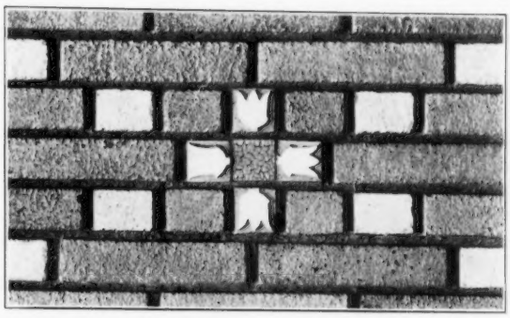
SECOND FLOOR PLAN.

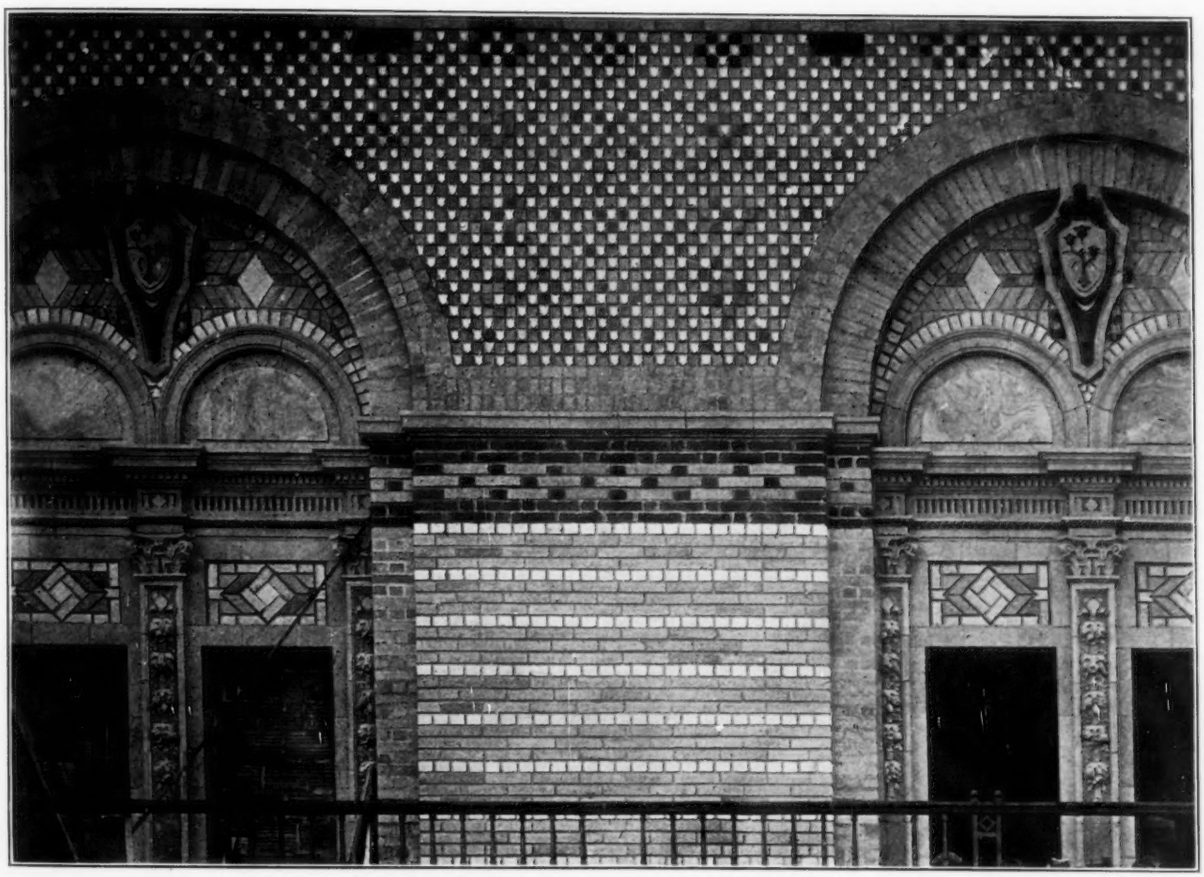


FIRST FLOOR PLAN.

NEW LOTOS CLUB, 110 WEST 57TH STREET, NEW YORK CITY.
DONN BARBER, ARCHITECT.



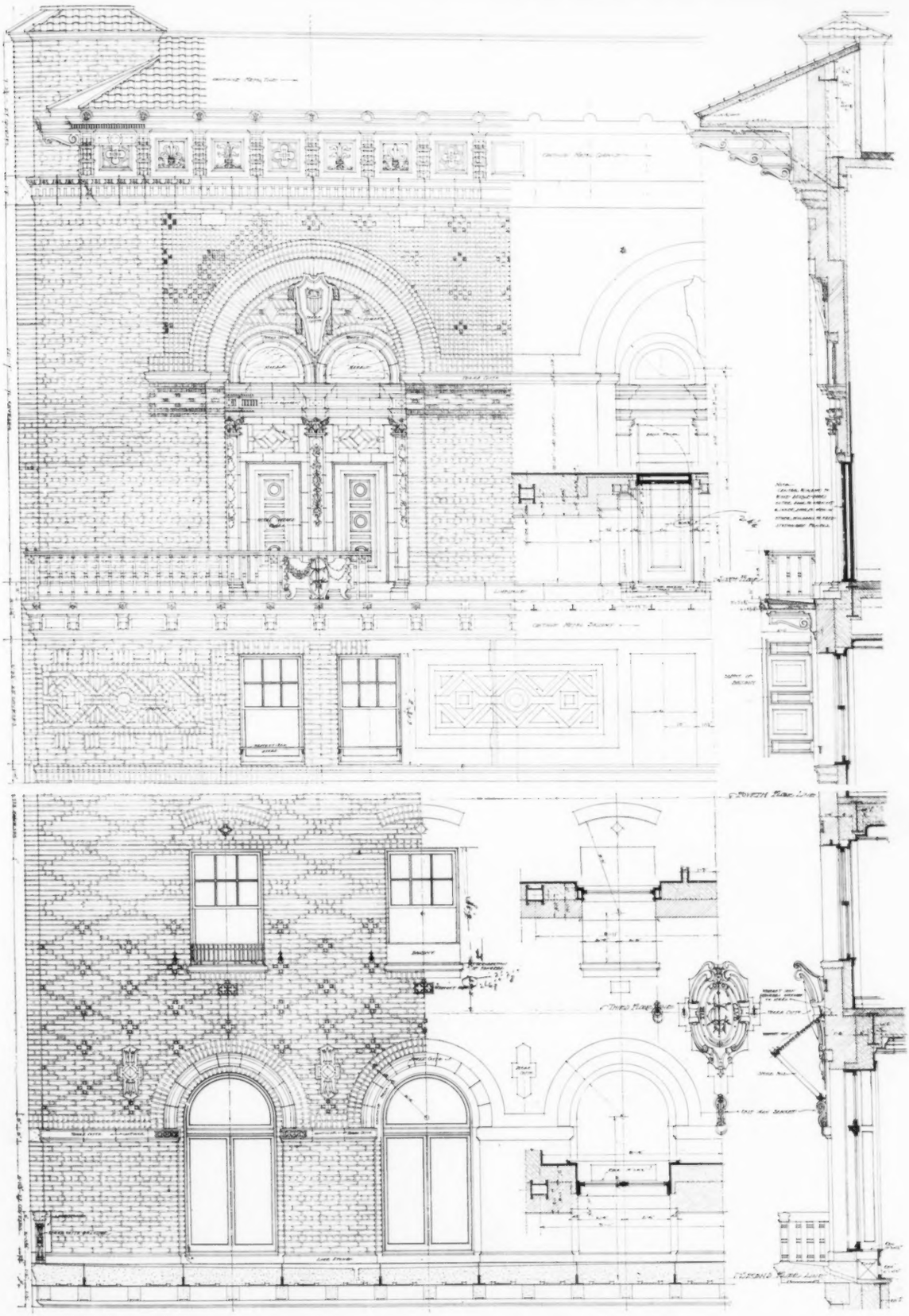




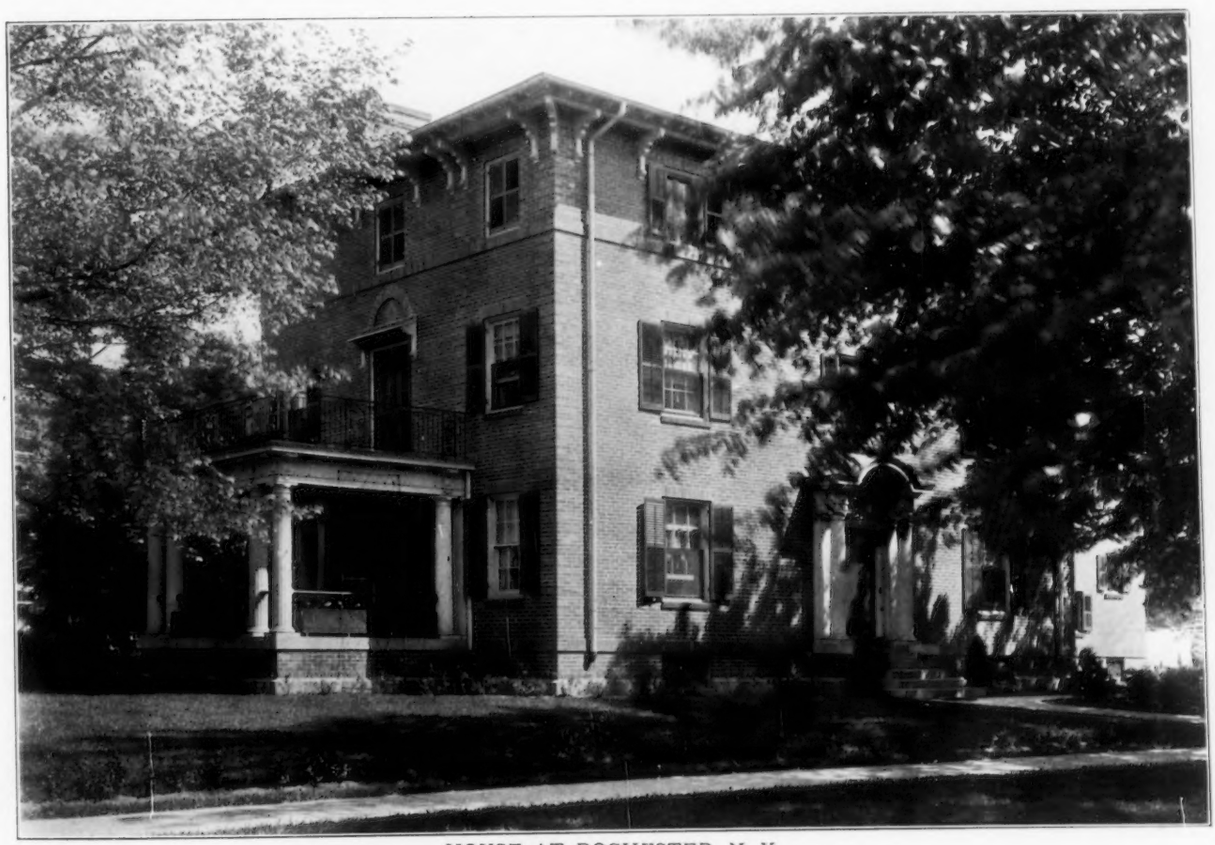
DETAILS OF BRICK WORK.

NEW LOTOS CLUB, 110 WEST 57TH STREET, NEW YORK CITY.

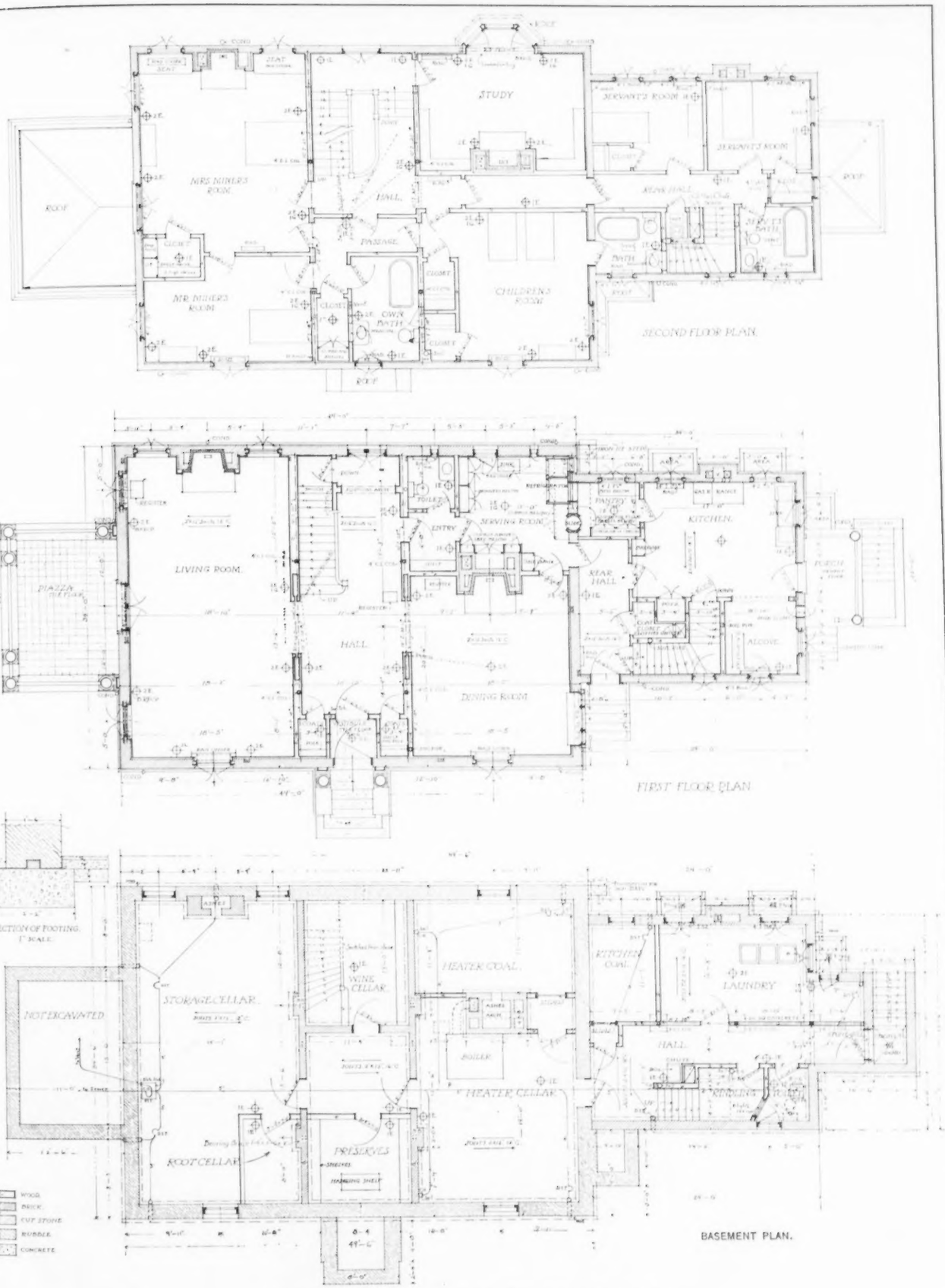
DONN BARBER, ARCHITECT.



DETAILS, FRONT ELEVATION, NEW LOTOS CLUB, 110 WEST 57TH STREET, NEW YORK CITY.
DONN BARBER, ARCHITECT.

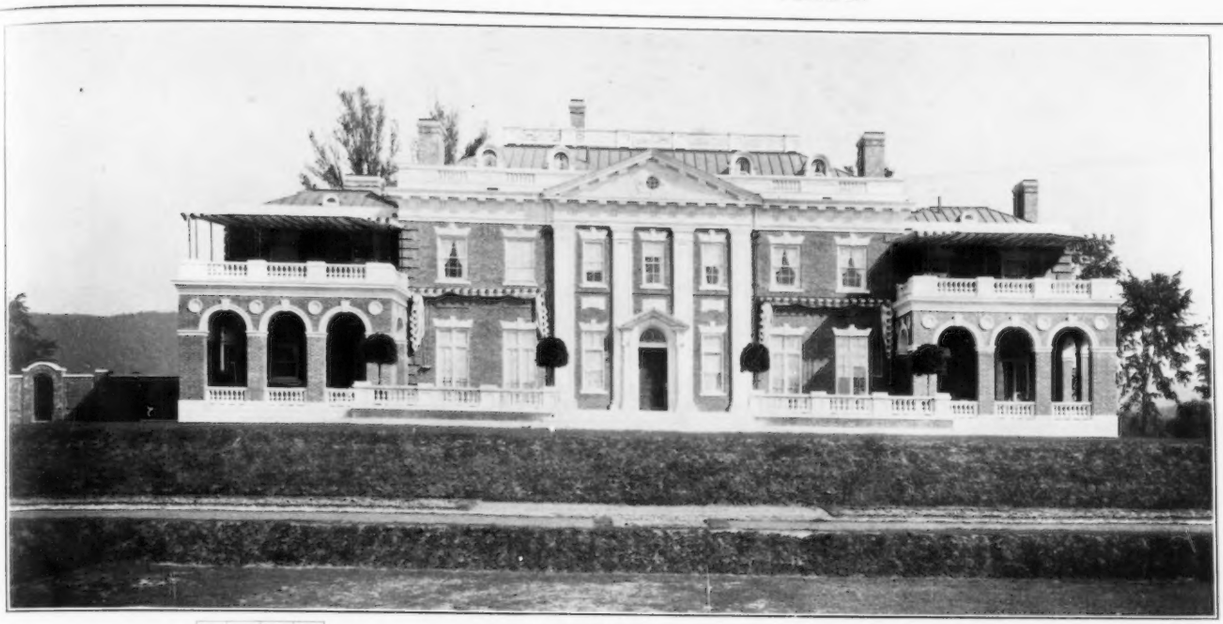


HOUSE AT ROCHESTER, N. Y.
CLAUDE F. BRAGDON, ARCHITECT.

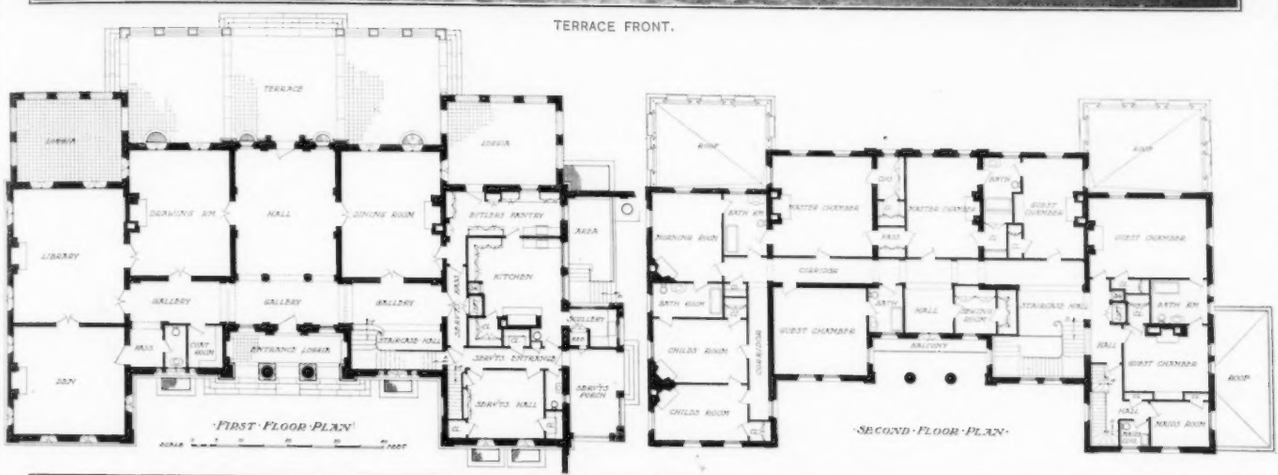


FLOOR PLANS, HOUSE AT ROCHESTER, N Y.

CLAUDE F. BRAGDON, ARCHITECT.



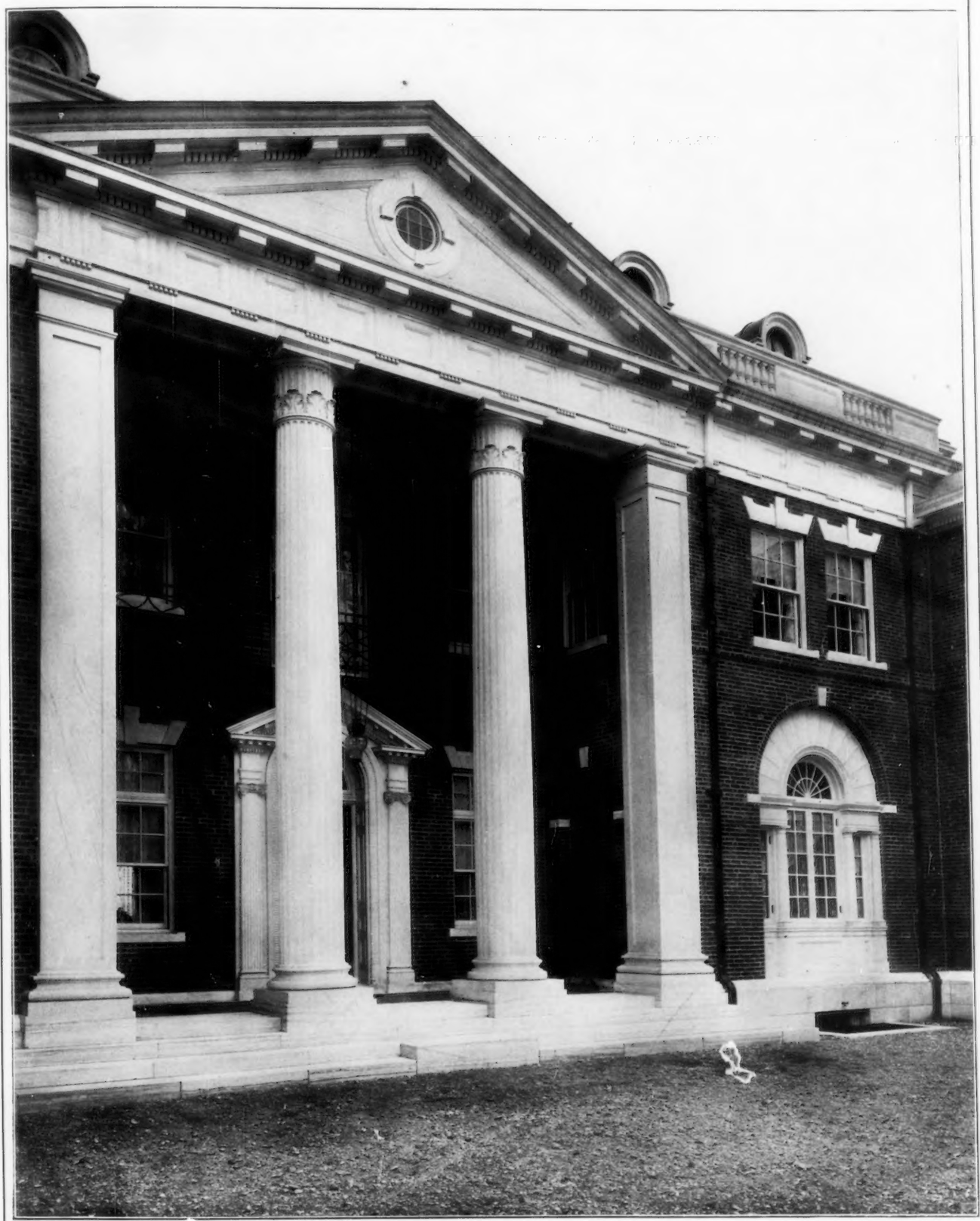
TERRACE FRONT.



ENTRANCE FRONT.

HOUSE AT LENOX, MASS.

HOPPIN. KOEN & HUNTINGTON. ARCHITECTS.



DETAIL OF MAIN ENTRANCE.

HOUSE AT LENOX, MASS.

HOPPIN, KOEN & HUNTINGTON, ARCHITECTS.

A TYPICAL BRETON HOME.

studying on the way the splendid wood carvings at Combrit, the ruins of Le Pérennou and old Roman villa, and the romanesque church at Loctudy. It is hardly necessary to plan other walks, for the country is rich in picturesque castles, churches, and manor houses, and one can revel in excursions from almost any city in this romantic country with its wayside shrines justly commemorating a people of superstition and religion.

AN OLD CHURCH WITH ITS QUAINT CALVARY, PLOERMEL.

A few suggestions are offered for the prospective traveler. In order to save time and avoid missing some of the most desirable places one should lay out his itinerary beforehand, which caution will prevent considerable annoyance and leave the mind free to enjoy and to work. The time of the year matters little in regard to weather for one of the best tours ever taken throughout this region was during the month of February. But Brittany is a land of pardons and during the summer there are local festivities and one should plan to see as many of these fêtes and festivities as possible. Due allowance should be made at every city for short pilgrimages among the fascinating suburbs. Distances are not great and the roadways for the most part are smooth, connecting all towns of any importance. The automobile, the bicycle, or "à pied" furnishes the best means of seeing the country, for the attractive country homes and the customs of the peasantry form memorable experiences. In traveling by train, third class is preferable unless accompanied by women, as one reaches the heart of a people by coming in contact with them in the humbler pursuits of life, and this close acquaintance is necessary to appreciate the spirit that has developed the art and life that we go to enjoy.

THE CATHEDRAL, NANTES.

The life of the peasantry is very humble and neatness is inbred. Their accommodations are always sanitary and one need have no fear whatever for the appearance of the table or the cleanliness of the lodging. Courteous treatment is received at all hotels, prices are reasonable, and there is not liable to be any exorbitant charge except at some of the fashionable watering places, but in order to prevent any misunderstanding whatever it is better to consider terms beforehand. Care should be taken in regard to drinking water not boiled. Railway restaurants are found at nearly every stop and furnish excellent provision for a moderate price.

The "Indicateur des Chemins de Fer" or railway guide should be carefully studied, as all trains do not carry the three classes. Plenty of time should be allowed to arrive at stations with baggage and occasionally it is advisable to economize in time by taking the express trains. Circular tour tickets from Paris are convenient and make quite a reduction in the regular fare. The best method for handling money is by letters of credit or express checks. In every city or town of any import there are reliable banks of the Credit Lyonnaise. These hints with a slight knowledge of the language will enable one at least to cover the territory with profit and little embarrassment, but to derive the real benefit of such a tour a knowledge of the French is indispensable.

These itineraries are given as an aid in arranging trips through the country west of Paris.

PARIS AND RETURN. SIXTY DAYS.

Paris.			
Chartres	1½	day	
Brou	½	,,	
Nogent	½	,,	
Le Mans	1	,,	
Solesmes	½	,,	
Angers	1½	,,	
Chemillé	½	,,	
Clisson	½	,,	
St. Philibert	½	,,	
Nantes	2½	,,	
Châteaubriant	1	,,	
Guérande	1	,,	
Le Croisic	½	,,	
Redon	1	,,	
Rochefort-en-Terre	½	,,	
Questembert	½	,,	
Ploërmel	1	,,	
Josselin	½	,,	
Elven	½	,,	
Vannes	1	,,	
Sarzeau	½	,,	
Quiberon	½	,,	
Plouharnel	¼	,,	
Carnac	¼	,,	
Locmariaquer	½	,,	
Auray	½	,,	
Hennebont	½	,,	
Lorient	½	,,	
Quimperlé	1½	,,	
Le Faouet	1	,,	
Quimper	2	,,	
Châteaulin	1	,,	
Crozon	1	,,	
Plougastel	½	day	
Brest	2½	,,	
St. Renan	½	,,	
Le Folgoët	½	,,	
Château de Kerjean	1	,,	
St. Thégonnec	1	,,	
Morlaix	2½	,,	
St. Pol de-Léon	1	,,	
Huelgoat	1	,,	
Château de Tonquédec	1	,,	
Guingamp	1	,,	
Tréguier	1	,,	
St. Brieuc	1	,,	
Abbaye de Beauport	1	,,	
Lamballe	½	,,	
Dinan	2½	,,	
Léhon	½	,,	
Dinard	1	,,	
St. Malo	1	,,	
Châteauneuf	½	,,	
Dol	½	,,	
Combourg	1	,,	
Rennes	1½	,,	
Vitré	1	,,	
Fougères	1	,,	
Laval	1	,,	
Evron	1	,,	
Mayenne	1	,,	
Pré-en-Pail	½	,,	
Alençon	1	,,	
Sées	½	,,	
Dreux	1	,,	
Paris	½	,,	

PARIS AND RETURN. THIRTY DAYS.

Paris		Brest	2½ day
Chartres	1½ day	Morlaix	2½ ,,
Le Mans	1 ,,	Guingamp	½ ,,
Angers	2 ,,	St. Brieuc	1 ,,
Nantes	2½ ,,	Dinan	1½ ,,
Guérande	1 ,,	St. Malo	1½ ,,
Ploërmel	1 ,,	Rennes	½ ,,
Josselin	½ ,,	Vitré	½ ,,
Vannes	1½ ,,	Laval	½ ,,
Carnac	1½ ,,	Mayenne	1 ,,
Auray	½ ,,	Alençon	1 ,,
Quimperlé	1 ,,	Dreux	1 ,,
Quimper	1½ ,,	Paris	½ ,,

ST. MALO AND RETURN. THIRTY DAYS.

St. Malo			
Châteauneuf	½ day	Quimper	1½ day
Dol	1 ,,	Châteaulin	1 ,,
Combourg	½ ,,	Brest	2 ,,
Rennes	2 ,,	St. Thégonnec	½ ,,
Ploërmel	1 ,,	St. Pol-de-Léon	½ ,,
Josselin	1 ,,	Morlaix	2½ ,,
Elven	1 ,,	Guingamp	1 ,,
Vannes	2½ ,,	Tréguier	½ ,,
Auray	1 ,,	St. Brieuc	1 ,,
Carnac	2½ ,,	Lamballe	½ ,,
Hennebont	½ ,,	Dinan	2 ,,
Lorient	1 ,,	Dinard	1 ,,
Quimperlé	1 ,,	St. Malo	½ ,,

ST. MALO AND RETURN. FIFTEEN DAYS.

St. Malo		Redon	1 day
Dinard	1 day	Guérande	½ ,,
Dinan	1½ ,,	Nantes	2 ,,
Ploërmel	½ ,,	Laval	½ ,,
Josselin	1 ,,	Vitré	1 ,,
Lorient	1 ,,	Rennes	1 ,,
Auray	1 ,,	Combourg	½ ,,
Vannes	1 ,,	Dol	½ ,,
Elven	½ ,,	St. Malo	½ ,,

JEPHSON'S WALKING TRIP OF FIVE WEEKS.

St. Malo	Sarzeau	Brest	Paimpol
Dinan	Carnac	Landerneau	Guingamp
Montfort	Auray	Le Folgoët	St. Brieuc
Rennes	Hennebont	St. Thégonnec	Lamballe
Ploermel	Quimperlé	Morlaix	Plancoët
Elven	Rosporden	St. Pol-de-Léon	Dinard
Vannes	Quimper	Lannion	St. Malo
	Châteaulin	Tréguier	

REFERENCE BOOKS.

Baedeker	Handbook on Northern France.
Baring-Gould	"Brittany."
Baudot-Dabot	"Archives des Monuments Historiques."
Bell	"Picturesque Brittany."
Bourassé	"Les Plus Belles Cathédrals de France."
Black	"Brittany and Touraine."
Blackburn	"Breton Folk," and "Artistic Travel in Normandy and Brittany."
Bumpus	"Holidays among the Glories of France."
Brossard	"Geographie Pittoresque et Monumental de la France."
Cartailhac	"La France Préhistorique."
Cattois	"Architecture Civile et Domestique."
Dunlop	"Wanderings in Brittany."
Edwards	"A Year in Western France."
Gailhabaud	"Monuments Anciens et Modernes."
Guizot	"History of France."
Hallam	"The Middle Ages."
Hare	Handbook on Northwestern France.
Headlam	"Chartres."
Hutchinson	"Summer Holidays in Brittany."
Jephson	"Walking Tour in Brittany."
Larned	"Churches and Castles of Medieval France."
Macquoid	"Through Brittany."
Massé	"Cathedral of Chartres."
Mérimée	"Études sur les Arts au Moyen Age."
Menpes	"Brittany."
Miln	"Excavations at Carnac."
Miltoun	"Rambles in Brittany," and "The Cathedrals of Northern France."
Murray	Handbook for France.
Musgrave	"Rambles in Brittany."
Rouargue	"La Bretagne Pittoresque."
Sadoux	"Les Châteaux Historiques de la France."
Taine	"Journeys through France."
Sturgis	"Dictionary of Architecture and Building."
Wendell	"The France of To-day."
Viollet-le-Duc	"Entretiens sur l'Architecture," "Dessins Inedits," and "Dictionnaire Raisonne de l'Architecture."

AN INCENTIVE TO BEAUTY.

IN BUENOS AYRES there is a municipal commission for the encouragement of architecture. A prize — a gold medal and a diploma — is given each year to the architect of the most attractively designed structure erected, and the owner of the building is excused from payment of taxes which naturally would fall upon the property. For how long this exemption lasts we do not know, but it appeals to property owners who might not be moved by the moral satisfaction of having a prize winning building. The same city has a law providing that all streets opened in the future must be at least 17.32 meters (almost sixty feet) wide. Height of structures is prescribed according to the width of the street, and the law is rigidly enforced. The republic and the city set a high example of taste and generosity in adornment of the national capital, and in consequence the city is singularly beautiful and attractive. Even the markets and slaughter houses are not without distinction as architectural compositions.

THE latest bulletin of the Forestry Division of the Department of Agriculture states that "We are now cutting timber from the forests of the United States at the rate of 500 feet, board measure, a year for every man, woman, and child; in Europe they use only 60 board feet per capita."

Speculation upon how long the forests will supply this inordinate rate of consumption should be abandoned and immediate steps taken to stop the waste of both log and board timber which none will deny exists.

We use wood for construction where other nations would and where we also should use brick or other incombustible material. "The enormous fire losses in this country, by comparison with losses from like cause in Europe, point to this conclusion," says the Philadelphia *Record*, and asks, "Is it a mere coincidence that the per capita of fire losses in this country is nearly ten times that of the countries of central Europe, or greater in almost exactly the same ratio as our use of combustible building material is greater?"

IN EXAMINING many of the buildings at Washington occupied by the various departments, Mr. Marsden Manson, who is chief engineer of San Francisco, says:

"Buildings in which are stored data and documents of almost incalculable value, I find are mainly structures which would not rank higher than San Francisco's third-class buildings. It is astounding that the Government faces such risks. Note the Geological Survey fire. The floors in that building are of wood; so are the doors and file cases and furniture, and in that building are data many times the value of the structure. Note the Interior Department, with its valuable records. You will find wooden shelving, wooden furniture, and wooden window frames. Now, a building of that kind is not safe. I would suggest for economy that the Government buildings be put in better shape to resist possible fire."

Standard Architectural Books—IV.

REGINALD BLOMFIELD, A.R.A., Professor of Architecture to the Royal Academy, author of many works on architecture. A History of Renaissance Architecture in England, 1500–1800. London, George Bell & Sons, 1897; 4to (.285 by .2 by .03), 19 + 431 + 10 p., 109 pl., 68 paged pl., cloth, 50 shillings net. A Short History of Renaissance Architecture in England, 1500–1800. London, George Bell & Sons, 1900; 8vo (.2 by .135 by .03), 336 p., 134 ill., cloth, 7s. 6d., net. The influence of the Italian and French Renaissance upon English life is interesting in many ways, but especially as it is expressed in the architecture of the country. Blomfield's book treats the period broadly.

John Alfred Gotch, F.S.A., F.R.I.B.A., and W. Talbot Brown, A.R.I.B.A. Architecture of the Renaissance in England, illustrated by a series of views and details from buildings erected between the years 1560–1635 with historical and critical text. London, Batsford, 1894; fol. (.48 by .365 by .045), 2 vols., ill., 145 pl., 147 shillings net. The monumental works of Nash and Richardson on the Renaissance in England lie quite beyond the limits of our field. An excellent substitute is this book of Gotch and Brown, with good text and explanatory drawings, and an abundance of photographic illustrations.

Andrew Noble Prentice, Associate of the Royal Institute of British Architects. Renaissance Architecture and Ornament in Spain; a series of examples selected from the purest works executed between the years 1500–1560, measured and drawn, together with short descriptive text. London, B. T. Batsford, no date (preface 1893); fol. (.475 by .365 by .03), 10 + 16 p., 60 pl. (in line), 50 shillings. Prentice's book on Spanish architecture has long had the reputation of being one of the best books to be found on an architect's table, not only for the draughtsmanship of its plates but also for the selection of the objects rendered. The author has confined his attention to the Plasteresque, that charming early style which corresponds to the *Cinque-cento* in Italy and the style of Francis First in France. He has chosen for representation little known buildings which especially express the peculiar charm of the Spanish temperament.

Colonial.

William Rotch Ware, Editor. The Georgian Period, a collection of papers dealing with "Colonial" or XVIII century architecture in the United States, together with reference to earlier provincial and true colonial work. New York, American Architect and Building News Company, 1899–1902; small fol. (.36 by .28 by .065), 3 vols., ill., 570 pl. in portfolios, $60 unbound. The Georgian Period, students' edition, consists of the leading articles on old Colonial architecture from the complete edition and one hundred full-paged plates chosen for their value to students, price $15. Colonial architecture, which term includes practically all American architecture based on classic types made before the middle of the nineteenth century, has much interest for us not only on account of its inherent beauty and refinement, but also from the fact that it is the nearest approach to a national style which we have yet produced. There are many excellent bound collections of photographs which, however, have not sufficient explanatory text to warrant their admission to this list as books. Quite the most comprehensive and dignified treatment of the subject is to be found in the three volumes on "Georgian Architecture" published by the American Architect Company. The term "Georgian" is a little misleading, but it is partially justified by the introduction of a chapter on the contemporary work in England from which the American style is mainly derived. Perhaps it is just as well to treat the American work as a phase of a larger matter.

Glenn Brown, F.A.I.A., Secretary of American Institute of Architects. History of the United States Capitol. Washington, The Government Printing Office, 1900–1903; small fol. (.39 by .3 by .065). Two vols., 255 p., 23 portraits, 322 photogravure plates, cloth, $30., for sale by the author. The Capitol at Washington is not strictly colonial but it belongs to the general neo-classic period which goes by that name, and is the most important and the most successful monument which it may show. There are many fine things about it, which are revealed with keen appreciation and excellent judgment by the Secretary of the American Institute of Architects. There is material for a similar work on the New York City Hall.

Oriental.

Ralph Adams Cram, Architect, Fellow of the American Institute of Architects, Member of the Society of Arts, London, Fellow of the Royal Geographical Society. Impressions of Japanese Architecture and the Allied Arts. New York, The Baker Taylor Company, 1905; 8vo (.245 by .165 by .04), 227 p., 52 pl., cloth, $2.00. It may well be true that the most powerful influence felt by the art of Europe in the nineteenth century came from Japanese painting. Japanese architecture has not played and cannot play such an important rôle. It has abundant charm, however, and its delightful presentation in Mr. Cram's little book is a source of constant pleasure and inspiration.

Gaston Migeon, Conservateur at the Louvre Museum; Henri Saladin, Architect. Manuel d'Art Musulman; vol. I, L'Architecture par H. Saladin; vol. II, Les Arts plastiques et industriels, par H. Migeon. Paris, Picard et fils, 1907; 8vo (.22 by .17 by .04), 2 vols., ill., pl., cloth, 39 francs. On the architecture and art of Mohammedan peoples there are superb, ponderous books which are quite without the limits of our present effort. All that is most valuable, however, is considered in these two little volumes, which will be most helpful in any architectural library.

HOUSES, CHURCHES, SCHOOLS, ETC.

FOR the study of buildings by classes there is no substitute for a large and well indexed body of periodicals. Information accumulates in the journals, and books are made after this accumulation has become considerable. The preparation of a book also requires time; so that the printed volume is always a little late. Books, moreover,

cover only a limited number of classes, whereas periodicals cover all classes of buildings. The manuals, however, of different kinds of buildings have been considered carefully, and it is hoped that the following list contains the most useful material.

Domestic Architecture.

Eugène-Emmanuel Viollet le Duc; Histoire de l'Habitation Humaine: translated by Benjamin Bucknall. The Habitation of Man in All Ages. Sampson Low, Marston, Searle, and Rivington, 1876; 8o (.225 by .15 by .03), 16+394 p., ill., cloth, 16s. To make our list complete we need a standard work on the history of the development of domestic architecture, and are fortunate in having one by a great master translated into English, and cast in an attractive form.

Andrew Jackson Downing (b. 1815, d. 1852), landscape architect and author of "Cottage Residences" and many other works. The Architecture of Country Houses, Including Designs for Cottages, Farmhouses, and Villas. New York, D. Appleton, 1866; 8o (.24 by .16 by .055), 10+484 p., 320 ill. In the period before the war there was certainly not the culture or brilliancy which may now be found in all fields of art, but there were many men of serious endeavor. Among them, Downing held a notable place. His book on country houses is quiet and thorough and contains many interesting designs.

Old English Cottages and Farmhouses. A series of volumes designed to illustrate the most typical and beautiful remains of minor domestic architecture in England. W. Galsworthy Davie and E. Guy Dawber, architects. Old Cottages and Farmhouses in Kent and Sussex. London, B. T. Batsford, 1900; 4to (.25 by .19 by .03), 10+28 p., 100 plates printed in collotype from a special series of photographs taken by W. Galsworthy Davie; cloth, 21s. James Parkinson and E. A. Ould, F.R.I.B.A. Old Cottages, Farmhouses, and Other Half-Timber Buildings in Shropshire, Herefordshire, and Cheshire. London, Batsford; New York, John Lane, 1905; 4to (.25 by .19 by .03), 12+39 p., 100 plates in collotype by James Parkinson; cloth, 21s. net. W. Galsworthy Davie and E. Guy Dawber. Old Cottages, Farmhouses, and Other Stone Buildings in the Cotswold District; Examples of Minor Domestic Architecture in Gloucestershire, Oxfordshire, Northants, Worcestershire, etc. London, Batsford; Boston, Bates & Guild Co., 1905; 4to (.25 by .19 by .03), 10+39 p., 100 plates, cloth, 21s. net. The domestic architecture of all countries is interesting; but perhaps that of England has more charm and more valuable suggestion The early types are well presented in this series. For the larger and more important class of residences the collector is referred to the books included under English Renaissance architecture.

J. H. Elder-Duncan, author of "The House Beautiful and Useful." Country Cottages and Week-End Houses. London and New York, John Lane, 1907; 4to (.295 by .23 by .025), 224 p., ill., cloth; $3.50. Domestic architecture in England has made great advance in the last decade or so, which has been well illustrated in special works. In our limited list this book by Elder-Duncan will introduce the subject sufficiently.

R. A. Briggs, F.R.I.B.A. Bungalows and Country Residences; a Series of Designs and Examples of Executed Works. London, Batsford, 5th ed., 1907; 4to, cloth; 12s., 6d. The word bungalow, originally applied to light, temporary houses in India, has been found useful to cover a light class of dwellings, which are intended to be picturesque and attractive in design. There is a considerable literature on the subject which is well introduced by this book by Briggs.

Robert W. DeForest and Lawrence Veiller, editors. The Tenement House Problem; Including the Report of the State Tenement House Commission of 1900; by various writers. New York, Macmillan, 1903; 8o (.29 by .16 by .045), 2 vols., ill., portrait, plates, maps, tables; cloth; $6.00 net. In the literature on this important matter it is easy to determine upon the best book for our purpose. DeForest & Veiller treat the "Tenement House Problem" broadly, without local limitations, although their chief interest is in conditions presented in New York City.

Churches.

Ralph Adams Cram. Church Buildings; a Study of the Principles of Architecture in Their Relation to the Church. Boston, Small, Maynard & Co., 1901; 8o (.24 by .165 by .02), 16+227 p., frontispiece, ill., pl., plans; cloth, $2.50. Architects write so little on matters which they understand best, that it is refreshing to read the work of a master on the specialty which most attracts him. Mr. Cram's little book has much for the architect, but it is more helpful to the churchman.

Ralph Adams Cram. English Country Churches. Boston, Bates & Guild, 1898; small fol. (.36 by .295 by .03), 3 p., 100 plates in heliotype; $10 unbound. As Mr. Cram's interest in church building centers upon English precedent, his general book on the subject is well supported by this excellent collection of photographs from fine English examples.

John Raphael Brandon (1817-1877), and Joshua Arthur Brandon (1822-1847). Parish Churches; Being Perspective Views of English Ecclesiastical Structures; Accompanied by Plans Drawn to a Uniform Scale and Letterpress Description. London, George Bell, 1848; 4to (.26 by .13 by .045), 11+126 p., 158pl.; $4.89 in 1891. The two Brandons did so much for the better understanding of English medieval architecture that we may welcome the introduction of one of their best works. The small plates are charmingly done and present a fine series of examples, exteriors, interiors, and plans.

Baths.

William Paul Gerhard, C.E. Modern Baths and Bathhouses. New York, John Wiley & Sons; London, Chapman & Hall, limited, 1908; 8vo. (.23 by .15 by .03), 16+311 p., 130 ill., cloth; $3.00 net. There is a growing literature on baths, but Gerhard's book is sufficient for our purpose. It gives the history of baths, the practice in all countries, and all forms of modern development. There is an excellent bibliography.

The Mayor's Committee of New York City. Report on Public Baths and Public Comfort-Stations. New York City, 1897; 8o (.25 by .16 by .02), 195+9 p., pl. This is an excellent book on baths. It has also a wider application, being concerned with all forms of public comfort stations.

OPEN COURT. (23 feet square.)

DINING ROOM.

Residence of
F. J. Sterner,
Architect,
New York City.

THE DEPARTURE.

THE RETURN.

DOUGLAS COUNTY SOLDIERS' AND SAILORS' MEMORIAL, TUSCOLA, ILL.

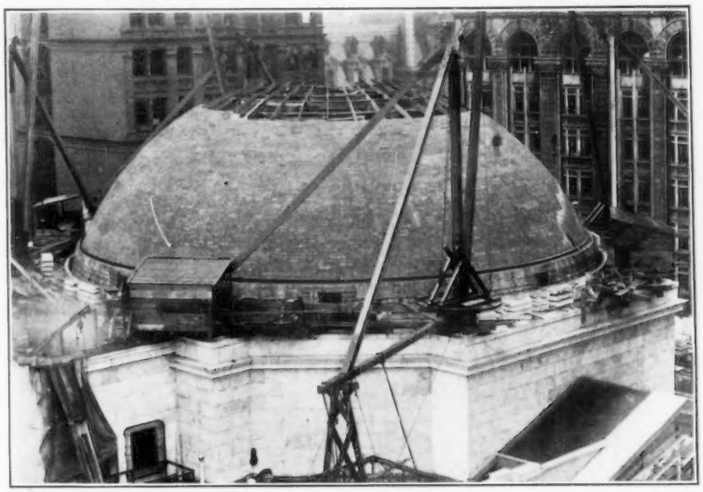
The Arch is of light cream enamel terra cotta, made by Northwestern Terra Cotta Company. The Panels are executed in bronze.
Professors Newton A. Wells and James A. White, University of Illinois, Architects.

Editorial Comment and Miscellany.

THE LOTOS CLUB, NEW YORK.

(See illustrations in Plate Forms.)

ON ACCOUNT of the plan conditions and the requirements of the various floors and consequent spacing and sizes of the window openings, the façade of the Lotos Club presented certain difficulties in composition. It became apparent from the outset that no vertical architectural treatment could be used as the windows were of varying widths and did not come over each other. It seemed to the architect that the exterior should express the three divisions of the floors;—the first and second which were devoted to the usual club requirements, the next three which were used for bedrooms, and the picture gallery floor which required a blank wall treatment. This meant three horizontal bands of almost equal height. Considering these conditions it seemed best to treat the façade as one large rich surface having an interesting texture and in which the windows would happen simply as incidents.

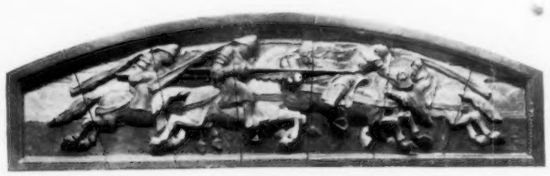


THE DOME OF THE NEW GIRARD TRUST BUILDING, PHILADELPHIA, PA.
The largest masonry dome in the United States. Over 100 feet in diameter; a free span without intermediate steel work, carrying the heavy 5 inch marble covering for the finished roof. Work executed by R. Guastavino Company.
McKim, Mead & White, Architects.

Above the ground floor the façade is built up of "Tapestry" brick. These bricks are twelve and one half inches long, by two and five eighths inches thick, and four inches deep. The surface is very rough and varies from cream white to light brown, the general color effect being a very light brown. The texture being rough absorbs the light, and gives to the building a particularly soft and beautiful tone. The mortar consists of coarse gravel, Portland cement, and a small quantity of lime. The joints are five eighths of an inch wide. The color of the mortar is a brownish gray. The headers forming the diagonal lines measure four inches by two and five eighths inches, and are cream white, standing out in a brownish gray field with considerable distinctness without making an objectionable contrast. At the intersection of the white lines thus formed is a Greek cross made up of a yellow tile and four square bricks, each square brick of a brownish background and having a white lotus flower in low relief. The pattern work panels between the fifth story windows are made up of a combination of the brownish gray brick used in the field, and the white brick used for the diagonal lines. The belt course of the sixth floor consists of a distinctly brown brick with a chain-work pattern in light brownish gray used in the field. The spandrels and belt course over the sixth story windows are made up of small squares in which the lotus figure is alternated with the brownish gray of the field, with single and double crosses in still darker colors, as shown in the illustrations. Altogether there are sixteen different kinds of brick used in the façade.

The windows have been given no architectural treatment, but are enriched by relieving arches of lighter brick, brick and slate sills, ventilation openings, flower balconies, and other accessories, which give an interest to the windows and make them count as part of the wall texture rather than as framed openings. The brick joints of the wall surfaces are treated variously; some portions are raked out and others are flush. The joints of certain patterns are picked out in different colored mortar. The picture gallery wall is enriched with colored terra cotta.

The façade is capped with a widely projecting cornice treated with rich beams and panels, all executed in metal and painted in rich colors on the soffits. The free use of color in the façade has been handled with a certain reserve, yet the impression given is of a rich polychrome surface. The building while reminiscent of the Italian renaissance is distinctly a modern American building.



FAIENCE PANEL, FOR SCHOOLHOUSE, CINCINNATI, OHIO.
Designed by W. P. McDonald and executed by Rookwood Pottery Company.
Gaber & Woodward, Architects.

THE official committee on congestion of population in New York City has vigorously grappled with the problem of practical and just building restrictions. It has found a growing sentiment among real estate experts and others practically interested in building in favor of height restriction. The committee's investigations have established the following facts: The natural ratio between

the demand for office room and the demand for ground floor space determines that only a small proportion of buildings, even in the congested district, can profitably be built high. (In proof of this the committee adduces abundant figures.) Office buildings planned in 1908 in the office district give room for nearly four times as many people as the average demand during the past six years. It urges that "every great office building erected will absorb the demand for office space which should be distributed over a large area." The limit of 300 feet tentatively proposed by the Building Code Revision Commission means practically no restriction, and the committee tells land owners quite plainly: "You will probably lose money by the erection of high office buildings, if you own small lots covered by low buildings assessed as though they were earning an income from twenty-five story buildings."

GEORGE A. SCHONEWALD.

LE ROY BARTON.

Awarded First Prize.

H. K. CULVER.
Awarded Second Prize.

ST. MARY'S CHURCH, McKEESPORT, PA.

(See illustrations in Plate Forms.)

THE church is built of a hard burnt red brick with Indiana limestone trimmings. The roof is of wood construction covered with slate. The floors of the vestibule and aisles are of granita — the sanctuary floor being of marble mosaic with ornamental borders. The altar is of marble inlaid with Venetian mosaic and colored marbles. The wall decorations consist of a series of sixteen paintings on heavy canvas which is pasted to the walls. The communion rail and confessionals are of oak with a fair amount of carving, as are the pews which are simple in design. The cellar is only large enough to accommodate the heating plant. The seating capacity of the church is six hundred and fifty. The cost of the church was ten cents per cubic foot, which includes furnishings, fixtures, and wall decorations. The building was cubed from one half of cellar to one half of roof in height. The total cost of the church was $50,000.

THE HOSPITAL BUILDING COMPETITION — THE SUCCESSFUL COMPETITORS.

GEORGE A. SCHONEWALD, who with LeRoy Barton was awarded the first prize of $500, is at present connected with the office of Thomas Tryon, architect, New York City, he

E. P. CHRYSTIE.

JOHN R. LAUTENBACH.
Awarded Third Prize.

E. B. MC KINNEY.

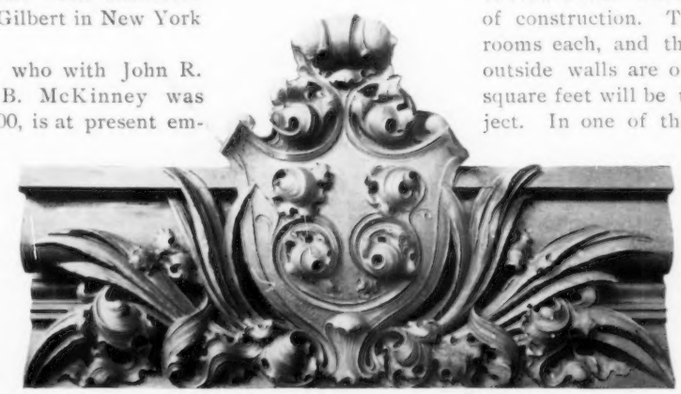
PRIZE WINNERS IN THE HOSPITAL BUILDING COMPETITION.

LIBRARY, HAMLINE UNIVERSITY, ST. PAUL, MINN.
Built of No. 440 Bronze Brown Brick, Made by Twin City Brick Company, St. Paul, Minn.
Clarence H. Johnson, Architect.

having previously been employed in the offices of Rossiter & Wright and Helmle & Huberty. Mr. Schonewald has been for four years a member of the Atelier Prevot of New York City. Mr. Barton is also employed in the office of Mr. Tryon, and obtained part of his architectural education in the office of Helmle & Huberty. He too is a member of Atelier Prevot.

Harry K. Culver, who was awarded the second prize, $200, received his early architectural education in the office of Pratt & Koeppe, Bay City, Mich. For the past seven years he has been connected with the office of Cass Gilbert in New York City.

Edward P. Chrystie, who with John R. Lautenbach and E. B. McKinney was awarded third prize, $100, is at present employed in the office of Hunt & Hunt, architects, New York City. He is a member of the Atelier Hornbostel. Mr. Lautenbach is a graduate of Washington University, and part of his early training was obtained in the office of William B. Ittner, St. Louis. He is now a member of the Atelier Hornbostel. Mr. McKinney received his architectural training in the offices of Warren & Wetmore and Palmer & Hornbostel. He is at present a member of Atelier Hornbostel.



DETAIL BY F. C. BONSACK, ARCHITECT.
Winkle Terra Cotta Company, Makers.

A LARGE estate upon the borders of Orange and South Orange, N. J., and owned by the Page family, is to witness an instructive building operation. One of the heirs of the late Henry A. Page, with a view to the development of the property, retained an engineer to make a special investigation of concrete, hollow tile, and other building materials to determine their comparative fire-resisting qualities. As a result, hollow tile was adopted, and houses of this material have been planned by Architects Squires & Wynkoop and Rossiter & Wright of New York. Six houses are now in course of construction. They have eight or ten rooms each, and the partitions, floors, and outside walls are of tile, of which 40,000 square feet will be used for the whole project. In one of the houses is a floor span of eighteen feet.

THE bad air, lighting, and acoustics of the House of Representatives' chamber at Washington led that body to appoint a commission to devise improvements. Three schemes of reconstruction, each involving an expenditure of about half a million dollars, have now been proposed. Each of them contemplates reducing the size of the house chamber and increasing the seating capacity of the galleries. Each contemplates also bringing the floor of the chamber to the outer wall

of the Capitol, thus admitting natural light and air. The bench system such as obtains in the English House of Commons is recommended as being less wasteful of space than the present 391 desks. One plan contemplates a return to the semicircular seating arrangement of Statuary Hall, that part of the Capitol in which the House sat prior to 1859. The other two plans call for a chamber rectangular in form. Any attempt to remove the desks will probably arouse considerable opposition. Elliott Woods, Superintendent of the Capitol, is chairman of this commission.

SCHOOLHOUSE AT SOUTH BEND, IND.
Built of No. 12 Porter Hydraulic-Press Brick.
Freyermuth & Maurer, Architects.

BUSINESS and religion will be well mixed, architecturally, if the First German Evangelical Protestant church of Pittsburg carries out its plans. Its church building is now on a very valuable site, but, according to the original deeds, the land must always be used for church purposes. The solution of the question is certainly thrifty, for a fourteen story office building is to be built above and around the present church, with the church façade showing, of course, in the lower middle of the structure.

THE Grand Rapids Tuberculosis Sanatorium was held up as a model in the recent tuberculosis congress at Washington. Yet it has been declared after an investigation by local city officials to be inadequately heated, its patients insufficiently and poorly fed and governed by obnoxious rules. The committee reports that the patients sleep on the open verandas, but are rolled into the inner rooms of the shacks to dress. These rooms are said to be uncomfortably cold, as is also the Administration building. Cracks one half an inch wide are to be seen in the walls, and smoke and soot fill the rooms, the pipes having been improperly adjusted. Since experts have praised the building, the question arises: What do experts consider essentials?

PANEL FOR THEATER, J. E. O. PRIDMORE, ARCHITECT.
Northwestern Terra Cotta Company, Makers.

THE connecting link between the north and south parkway systems of Chicago is to be either a boulevard built on the surface or, as the Commercial Club has recommended, elevated upon a long series of arches. The former is urged on the grounds of economy and expedition by the Michigan Avenue Improvement Association, representing property owners, who have agreed to share in paying two thirds of the condemnation cost of the additional thirty-four feet needed to widen Michigan Avenue to a boulevard width of one hundred feet. This association recommends that the Commercial Club withdraw its elevated scheme.

THE secretary of the treasury has secured for the proposed new building for the Bureau of Printing and Engraving the tier of three squares in Washington extending from B Street south to the Potomac River and bounded by 14th and 15th Streets, Southwest. With the acquisition of this land all the property south of Pennsylvania Avenue all the way to the river and west of 14th Street will come into possession of the government and will add a substantial strip to the area of the mall. The new structure, therefore, will have all the advantages of park-like surroundings and none of the restrictions of the rigid building lines, obtaining elsewhere in the city.

DETAIL BY SCHWARTZ & GROSS, ARCHITECTS.
New York Architectural Terra Cotta Company, Makers.

IN THE *Alumnæ Weekly*, published at Princeton, Mr. Ralph Adams Cram gives the essentials of his scheme for improving the architectural plan of the university. The central space around the historic cannon is to be an enclosed and guarded area. An existing roadway, and the vehicles it attracts, is to be removed to the south beyond the two society buildings, "Clio" and "Whig," and eventually a marble terrace is to be built connecting them and supporting the campus above while obscuring the driveway below. To permit the success of this scheme and to obtain a splendid axis enclosed by the distant hills Mr. Cram declares that Dodd Hall will either have to be removed and reduced in height or done away with altogether.

LONDON is to have a New National Theater, established as a memorial to Shakespeare and controlled by a board of trustees chosen

from men prominent in the literature, drama, music, and education of the day. Perhaps it was New York that set the example. Howbeit, the prophecy may be ventured that endowed theaters will be established in buildings especially constructed for the purpose in at least six of our leading cities.

MAIN ENTRANCE, PAROCHIAL SCHOOL, BROOKLINE, MASS.
Panel, after Della Robbia, reproduced in colors by Atlantic Terra Cotta Company.
F. Joseph Untersee, Architect.

IN GENERAL.

"Tapestry" bricks made by Fiske & Co. were used in the façade of the Lotos Club, Donn Barber, architect, illustrated in the Plate Forms of this issue.

B. H. Shepard has retired from the firm of Davis, McGrath & Shepard, architects, and a new copartnership has been formed which includes Calvin Kiessling, under the firm name of Davis, McGrath & Kiessling; offices, 1 Madison avenue, New York, and 8 Beacon street, Boston.

Gladding, McBean & Co., manufacturers of architectural terra cotta, have removed their executive offices to the Crocker Building, San Francisco, Cal.

Stebbins & Watkins have opened an office for the practise of architecture at 42 Chauncey street, Boston. Manufacturers' catalogues and samples desired.

Wilder & White have removed their offices from 5 East 42d street to 156 Fifth avenue, New York City.

Janssen & Abbott, architects, announce the removal of their offices from the Machesney Building to the Renshaw Building, Liberty avenue and 9th street, Pittsburg, Pa.

Karl F. J. Seifert, architect, has opened an office for the practise of architecture at 25 West 42d street, New York City. Manufacturers' catalogues and samples desired.

L. Rodman Nichols, architect, announces the removal of his office to 208 South Center street, Schenectady, N. Y.

H. A. Walters has been elected fourth vice-president of the Hydraulic Press Brick Company, with headquarters at Chicago.

One of the most conspicuous sites for a building in this country is that occupied by San Francisco's Cliff House. This ugly building that gave for many years a first impression to those entering by the Golden Gate has recently been destroyed by fire. It is to be replaced by a structure of imposing architectural character and destined to be a fine ornament to the city.

DETAIL, ST. BARBARAS' R. C. CHURCH, BROOKLYN, N. Y.
South Amboy Terra Cotta Company, Makers.
Helmle & Huberty, Architects.

The precarious condition of the Town Planning Bill introduced into the English Parliament by John Burns has led the philanthropist, Mr. W. H. Lever, to donate annually for three years a sum ranging from £500 to £1,000 for instruction and research in the twin subjects of town planning and skyscraper architecture. Opposition to Mr. Burns's bill is centered about the limitation of the number of cottages per acre as the basis of a town planning scheme.

The architects of Indianapolis have organized under the name of "Architects' Association of Indianapolis" with a large charter membership. It has been fully ten years since the architects of that city have had an organization, and the lack of one has been seriously felt on more than one occasion where the interests of the profession have been at stake.

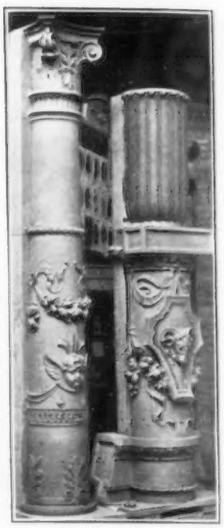
The new association includes practically all the best architects of the city. The officers are: President, Arthur Bohn; vice-president, Clarence Martindale; secretary and treasurer, Henry Dupont; directors, Wilson B. Parker and Anton Scherrer.

At the annual meeting of the Boston Society of Architects these officers were elected: President, Ralph Adams Cram; vice-president, Arthur G. Everett; treasurer, Charles K. Cummings; secretary, Edwin J. Lewis, Jr.; executive committee, Clarence H. Blackall, Louis C. Newhall, Alexander W. Longfellow.

DETAIL BY EDWARD A. QUICK & SON, ARCHITECTS. New Jersey Terra Cotta Company, Makers.

Two blocks on the south side of Washington Square, New York, were chosen by the Courthouse Board as the best site for the new $7,000,000 county courthouse. It was the fourth site chosen, since the Board was authorized by law in 1903, and the selection was endorsed by a committee of four supreme court judges. Nevertheless, opposition straightway set in, led by the New York County Lawyers' Association and joined by the residents of the quiet Washington neighborhood. These influences prevailed at the meeting of a special committee of the Board of Estimate and Apportionment and that committee will recommend the rejection of the Washington Square site as being inconvenient and inaccessible.

The proposed New York State Lunatic Asylum presents another struggle to determine upon a site. About a year ago the Lunacy Commission was authorized by the legislature to have plans prepared for an elaborate group of buildings with a view to utilizing the old Creedmoor Rifle Range on Long Island. State architect Ware has been at work upon these up to the present, when by a bill introduced by Senator Raines authorizing the commission to sell or exchange the Rifle Range and to build nearer Brooklyn, the subject of location is again opened. New York real estate operators are astir and ready to bid for the Rifle Range if thrown upon the market, for it would make a suitable nucleus for a new suburb.



DETAILS BY CLINTON & RUSSELL, ARCHITECTS. Conkling-Armstrong Terra Cotta Company, Makers.

In the case of the new immigration station proposed for the port of Philadelphia a fine site at Gloucester, New Jersey, was recommended by the commercial bodies of Philadelphia and practically determined upon by Secretary Straus; but the slip came in acquiring it. The owners of the property had patiently negotiated with the Government for nearly a year and had offered the land for an immigrant station at a figure less than other parties offered for it. Tardiness of the Department of Commerce and Labor in acting in the matter has caused the site to be disposed of to private parties and much to the disappointment of Philadelphians. If indeed their hopes are to be revived, it is possible that Uncle Sam will be "held up" by someone for a profit.

The Portland Architectural Club, Portland, Ore., will hold its Second Annual Exhibition in the galleries of the Museum of Fine Arts, March 22d to April 10th.

The First Exhibition of the Minneapolis Architectural Club, supported by the Minnesota Chapter of the American Institute of Architects, will be held in the Builders' Exchange, April 17th to May 3d.

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The Hospital Building Competition

SPECIAL NUMBER

OF

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EXTRA EDITION

TO

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PROGRAMME FOR THE COMPETITION.

THE problem is a Hospital Building. The location may be assumed in any American city of about 30,000 inhabitants. The lot contains about five acres and has a frontage of 300 feet on the main avenue, leading to the city, which runs east and west. The part of the lot on which the building is to be placed is practically level.

It is to be a block hospital with three floors above the basement. The height of the first and second stories is to be not less than 12 feet. No one floor above the basement is to contain more than 10,000 square feet, exclusive of sun rooms and approaches. The length of the structure, including sun rooms and approaches, cannot exceed 160 feet.

The following should be provided for in the plan:

Two ten bed wards for each sex in the Medical Department; two ten bed wards for each sex in the Surgical Department; and in connection with each of these wards two one bed rooms. Two ten bed wards for each sex in the Children's Department. A Maternity Department to accommodate six patients, two of which are to be in private rooms, and in conjunction with this department a delivery room and baby room.

In conjunction with the wards there should be provided service rooms or diet kitchens, nurses utility rooms, linen rooms, broom and medicine closets, clothing rooms and toilet rooms.

In addition to the private rooms provided for in connection with the open wards there should be at least eight private rooms for single patients.

Operating and accident rooms, with their adjuncts of anæsthetic, sterilizing, bandage, instrument, nurses' work room, reception, and recovery rooms, also surgeons' dressing room and X-ray room.

Single bed rooms for at least twenty nurses; nurses' parlor; suite for superintendent and head nurse; bed room for two internes; reception room for patients; laboratory; drug room; cooking class room; kitchens; store rooms; laundry; bed rooms for fourteen domestics — four being males; dining room for staff and nurses; dining room for domestics; toilet rooms; small out-patients department; autopsy room; boiler room; fan room, and such other features as may suggest themselves to the designer.

The exterior of the building is to be designed entirely in Architectural Terra Cotta, employing colored terra cotta in at least portions of the walls.

The following points will be considered in judging the designs:

A. Frank and logical expression of the prescribed material.
B. Rational and logical treatment of the exterior.
C. Excellence of plan.

In awarding the prizes the intelligence shown in the constructive use of terra cotta and the development or modification of style, by reason of the material, will be taken largely into consideration.

It must be borne in mind that one of the chief objects of this competition is to encourage the study of the use of Architectural Terra Cotta. There is no limitation of cost, but the designs must be suitable for the character of the building and for the material in which it is to be executed.

DRAWINGS REQUIRED.

On one sheet, at the top, the front elevation drawn at a scale of 8 feet to the inch. In the title of this elevation state which point of the compass it faces. On the same sheet, below the front elevation, the four floor plans drawn at a scale of 16 feet to the inch.

On a second sheet, at the top, the elevation of secondary importance drawn at a scale of 16 feet to the inch; immediately below half inch scale details of the most interesting features of the design. The details should indicate in a general manner the jointing of the terra cotta and the sizes of the blocks. The color scheme is to be indicated either by a key or a series of notes printed on the same sheet with the secondary elevation and details, at a size which will permit of two thirds reduction.

The size of each sheet (there are to be but two) shall be exactly 36 inches by 24 inches. Strong border lines are to be drawn on both sheets one inch from edges, giving a space inside the border lines 22 inches by 34 inches. The sheets are not to be mounted.

All drawings are to be in black ink without wash or color, except that the walls on the plans and in the sections may be blacked-in or cross-hatched.

Graphic scales to be on all drawings.

Every set of drawings is to be signed by a *nom de plume* or device, and accompanying same is to be a sealed envelope with the *nom de plume* on the exterior and containing the true name and address of the contestant.

Drawings submitted in this competition must be at owner's risk from the time they are sent until returned, although reasonable care will be exercised in their handling and keeping.

The prize drawings are to become the property of THE BRICKBUILDER, and the right is reserved to publish or exhibit any or all of the others.

The designs will be judged by three or five well-known members of the architectural profession.

For the design placed first in this competition there will be given a prize of $500.
For the design placed second a prize of $200.
For the design placed third a prize of $100.

REPORT

OF THE

JURY OF AWARD.

THE Jury of Award recognizing that in this competition a somewhat complex and technical problem was presented, considers the results highly satisfactory. Several of the designs submitted, especially the plans, are of great interest.

The interpretation of that part of the program which relates to the accommodations to be provided for in the plan varied to a considerable extent, and it may be stated here that this was the very result desired and the reason why the word *should* was used instead of *shall* in the sentence. "The following *should* be provided for in the plan."

This part of the program was advisory and intended only as a guide to the needs of a hospital for a community of 30,000 inhabitants. In considering the designs submitted the jury were not unmindful of the fact that the competition was especially based upon the architectural expression of the building rather than its plan, and that the plan was therefore of secondary importance, although by no means unimportant in determining the selection for prizes and mentions.

First Prize. The façade is well proportioned and hospital requirements are frankly expressed. This is notably shown in the treatment of the flanking pavilions with the *solarii*. In none of the other designs is this condition as well recognized and no other on the whole presents an equally satisfactory example of the hospital type. It is to be regretted that the *solarii* are shown with solid walls on the returns as light is needed at these points. In general proportion, the design compares favorably with the other two prize designs and although less refined than that given second prize is more characteristic of the required material; and while the detail is somewhat less characteristic of the material than the third prize design it is more refined.

The authors read the program as requiring six ten bed wards. The arrangement of their plan, however, would readily permit the addition of six other wards of this capacity. With one exception this plan indicated a better grasp of the problem and a better appreciation of hospital requirements than any other.

Certain defects in the plan should be noted: The lack of convenient provision for the reception of patients; the dark linen rooms; and, a minor point, the unnecessarily heavy piers dividing the windows of the operating room.

Second Prize. The author presents an especially well proportioned façade and the detail is refined, but the treatment of the flanking pavilions is not expressive of the plan. The introduction of somewhat wider windows than those suitable for the wards does not meet the requirements of sun rooms. It would appear that the designer found it difficult to harmonize the openness of treatment indicated on his plan at this point with the treatment of the body of the building and adopted the expedient of windows of greater width where a special treatment indicative of purpose was demanded. The detail treatment of the two lower stories if executed would be in simulation of stone rather than in the required material.

This plan is objectionably crowded on the north and the wards on first and second floors would be seriously shadowed as the central pavilion is far too close to the flanking wings. The plan lacks convenient provision for the reception of patients, and places the *solarii* in the north, but the need of a freely lighted operating room is recognized.

Third Prize. The façade is well proportioned as a whole but would have been much improved if the roof pavilions had been less bizarre and had the detail been smaller in scale. Had the east and west projections, shown on front elevation, been rendered in light ink the presentation would have been improved.

There is no excuse for the flanking windows,

shown in the pavilions at second floor in elevation, but not in plan. Windows so placed would lessen rather than increase the comfort of the patients in the adjoining beds.

The expression of the prescribed material is good, albeit the faults in scale are glaring, but there is good massing and a well proportioned and vigorous exterior expression of the plan is shown.

The plan while less crowded in the north than that last considered is much less free from the evil of shadowing than that first mentioned. A convenient method of receiving patients is recognized in this plan but the necessary adjuncts of an operating room are entirely disregarded. Equal glass area is given at the end of the ten room ward regardless of the consideration of southern and northern exposure, and the *solarii* are poorly placed on the east and west since neither can be used throughout the day. This defect is in part compensated for by the roof gardens indicated on elevations.

It is unfortunate that in these designs as in all others presented the minimum height of ceiling, twelve feet, was so closely adhered to. Far more typical designs for hospitals would have been provided if higher studs had been adopted.

First Mention. A charming, fanciful, and characteristic terra cotta design is here presented, but somewhat ornate nevertheless. The plan presents an impossible condition on the south where the wards shadow one another, and the operating room is poorly placed. The jury decided however that the great refinement and beauty and the sympathetic recognition of material together with the pleasing proportions of the design as a whole fairly gave this design the place assigned it.

Second Mention. In this design the case is quite reversed. The exterior treatment is tame. The detail is commonplace and uninteresting, but the plan is the best presented. It has the germ of a very convenient and practical hospital and one that does not follow conventional models. It should be noted however that again no proper provision is made for the reception of patients. The stud should have been increased, since six of the large wards have no opposite light on the long sides, and the sun rooms are inadequate.

Third Mention. The exterior is superior in general to the preceding design and except for a certain delicacy of scale the general treatment and detail might better be in limestone than in terra cotta. A very carefully considered plan but more commonplace than the preceding one. The lower stories of the northern wings would be objectionably shadowed, but the sun rooms are well recognized.

Fourth Mention. Here again is a well considered hospital plan giving six ten bed wards, but the exterior treatment is wandering in motive and in scale and is not highly characteristic of terra cotta. The rendering of the detail is, however, excellent.

Fifth Mention. While a commendable regard has been shown for hospital conditions in this design the exterior does not logically express the plan and is commonplace and monotonous. The iteration of the round headed windows of first floor is deadening, especially since if square heads had been used the fenestration would have been more in harmony with the general lines of the design and would better have met hospital needs. When the detail is considered, however, this criticism changes to praise, for no more refined treatment of the prescribed material, commonplace though it be, and no more beautifully rendered detail sheet, was presented for our consideration.

Sixth Mention. The exterior does not altogether suggest a hospital, but the detail is especially well rendered and is decidedly capable of being executed in terra cotta.

Edmund M. Wheelwright.
William D. Austin
Charles Collens
J. Harleston Parker
Edward F. Stevens.

AFTER THE PRIZE AND MENTION DESIGNS THE OTHERS ARE NOT ARRANGED IN ORDER OF MERIT.

The Orientation of Hospital Buildings.

BY WILLIAM ATKINSON.

A HEALTHY hospital has been defined as "A hospital which does not *by any fault of its own* aggravate ever so little the recovery of persons who are properly its inmates, and this, the only right sense of the absolute word, governs the word's comparative applications, so that when we compare them together with reference to their 'healthfulness' and call one of them the 'unhealthier' hospital, our meaning is that in this hospital, by means of some faults of its own, disease cannot be treated as successfully as in the other hospital; and the fault of its own, through which an 'unhealthy' hospital fails to attain the best results for its medical and surgical treatment, is of two kinds — either it is an *inherent fault*, as of site and construction; or else it is a *fault of keeping*, as dirtiness or overcrowding or neglect of ventilation." *

Unquestionably the first requisite for a healthy hospital is abundance of sunlight. Not only the exterior wall surfaces of the buildings, but also the ground surfaces between and around them should have the direct rays of the sun for as long a time as possible each day.

"Second only to air is light and sunshine essential for growth and health, and it is one of nature's most powerful assistants in enabling the body to throw off those conditions which we call disease. Not only daylight, but sunlight; indeed fresh air must be sun-warmed, sun-penetrated air. The sunshine of a December day has been recently shown to kill the spores of the anthrax bacillus." †

Wall surfaces, especially brick walls, absorb a large amount of moisture during rains. This moisture is quickly dried out by exposure to sunlight, but is retained for a long time in walls which are not exposed to the sun and creates an unhealthy condition; for dampness, with lack of sunlight, is a combination favorable to the growth of low forms of vegetable life and should be avoided in hospital buildings.

To secure sunlight in the fullest measure requires that the general plan of the buildings shall be carefully studied with this end in view.

Several years ago in a little book on hospitals, ‡ in which I had the honor to be the collaborator of Dr. Alfred Worcester, I stated as follows the principles to be observed, in the order of their importance, in designing the general ground plan of a group of hospital buildings:

"*First.* To secure a large amount of sunlight for each one.

"*Second.* To impede as little as possible the circulation of air in and around the buildings.

"*Third.* To provide for the future enlargement of the hospital; and

"*Fourth.* To promote convenience and economy of administration."

I added further: To study properly the question of sunlight, a "sun plan" of the buildings must be drawn and their positions considered with reference to the shadows they cast upon each other and upon the ground. An astronomical table, showing the path of the sun from sunrise to sunset at the different seasons of the year, is desirable for this work.

It is the object of the present essay to illustrate the application of the first of the above principles with a few diagrams representing some of the principal types of hospital plans.

In the latitude of Boston, Mass., the sun rises on the longest day of the year about 34 degrees north of east and sets at an equal distance north of west, traveling during the day over a horizontal circle of about 248 degrees and reaching at noon an altitude of approximately 72 degrees above the horizon.

On the shortest day of the year he rises about 34 degrees *south* of east and sets an equal distance *south* of west, traveling over a horizontal circle of only 112 degrees and reaching at noon an altitude of only 23 degrees above the horizon.

At the two periods of the year when the days and nights are of equal length (in March and September) the sun rises in the east and sets in the west, traveling over a horizontal circle of 180 degrees and reaching at noon an altitude of 48 degrees (approximately) above the horizon.

The diagrams in Fig. 1 give the position of the sun at each hour of the day (sundial time) for the four periods of the year named.

Availing ourselves of this diagram, we may develop some useful principles to govern the general disposition and arrangement of hospital buildings.

Suppose "A" in Fig. 2 to represent a building square in plan, placed squarely north and south.

It is clear that the north wall will receive no sunlight at any time during the day during half the year (from September 22 to March 21) and only a small amount in early morning and late afternoon during the other half; that the east wall will receive sunlight from sunrise till noon all the year round; that the south wall will receive sunlight all day during half the year (from September 22 to March 21) and a less amount during the other half, and that the west wall will receive sunlight from noon until sunset all the year round.

Suppose "B" in the same figure to represent the building placed at an angle of 45 degrees with the meridian.

It is clear that all four sides of the building will now have sunlight during some portion of the day throughout the year. The northeast wall will have the morning sun; the southeast and southwest walls will have the sun during the middle of the day, and the northwest wall will have the afternoon sun.

The following table gives the number of hours during which the walls in the two figures are exposed to sunlight at the four periods of the year named. It is evident that this table will serve not only for square buildings but also for buildings rectangular in plan.*

FIGURE A.

June 21.	
N. wall — { 4.25 a. m. to 7.45 a. m. / 4.15 p. m. to 7.35 p. m. }	6h 40m
E. wall — 4.25 a. m. to 12 m.	7h 35m
S. wall — 7.45 a. m. to 4.15 p. m.	8h 30m
W. wall — 12 m. to 7.35 p. m.	7h 35m

* Sixth Report of the Medical Officer of the Privy Council, 1864.

† Galton, Healthy Hospitals.

‡ Small Hospitals. New York, 1894, Wiley & Sons.

*This table is calculated for sundial time, from the sun chart (Fig. 1), and is sufficiently accurate for our purposes.

March 21 and September 22.

N. wall	None
E. wall—6 a. m. to 12 m.	6h
S. wall—6 a. m. to 6 p. m.	12h
W. wall—12 m. to 6 p. m.	6h

December 21.

N. wall	None
E. wall—7.35 a. m. to 12 m.	4h 25m
S. wall—7.35 a. m. to 4.25 p. m.	8h 50m
W. wall—12 m. to 4.25 p. m.	4h 25m

Let us now compare the two figures with respect to the shadows they cast upon the ground.

Fig. 3 is the "shadow plan" of a cube, placed in the two positions in question. The shadows are drawn for each hour of the day from sunrise to sunset. They are superposed one upon the other, so that the depth of shadow at any particular point corresponds to the length of time that point is without sunlight, the lightest tint representing

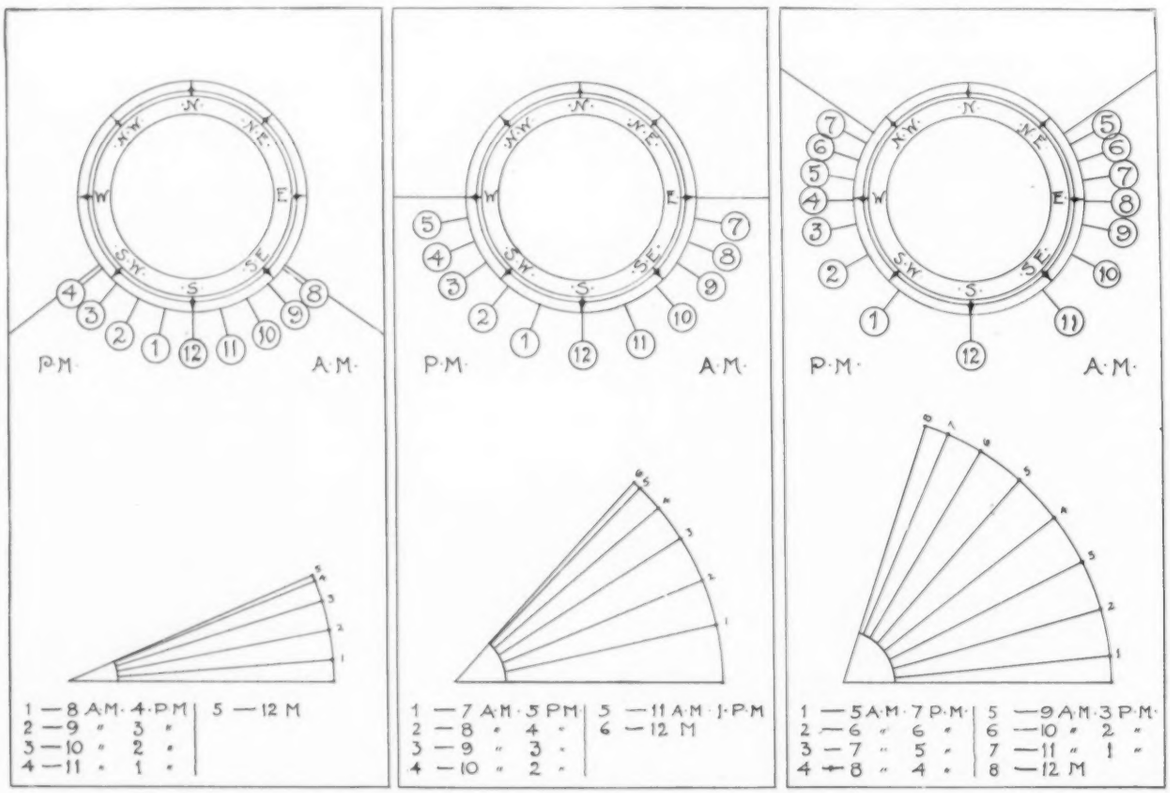


FIG. 1. SUN CHART.

FIGURE B.

June 21.

N. E. wall—4.25 a. m. to 10.45 a. m.	6h 20m
S. E. wall—4.25 a. m. to 1.15 p. m.	8h 50m
S. W. wall—10.45 a. m. to 7.35 p. m.	8h 50m
N. W. wall—1.15 p. m. to 7.35 p. m.	6h 20m

March 21 and September 22.

N. E. wall—6 a. m. to 9.45 a. m.	3h 45m
S. E. wall—6 a. m. to 2.15 p. m.	8h 15m
S. W. wall—9.45 a. m. to 6 p. m.	8h 15m
N. W. wall—2.15 p. m. to 6 p. m.	3h 45m

December 21.

N. E. wall—7.35 a. m. to 8.45 a. m.	1h 10m
S. E wall—7.35 a. m. to 3.15 p. m.	7h 40m
S. W. wall—8.45 a. m. to 4.25 p. m.	7h 40m
N. W. wall—3.15 p. m. to 4.25 p. m.	1h 10m

Evidently the arrangement shown at "B" has the better sun exposure.

In "B" all four walls have sunlight at some part of the day throughout the year, while in "A" 25 per cent of the wall surface is without any sunlight at all during one half of the year.

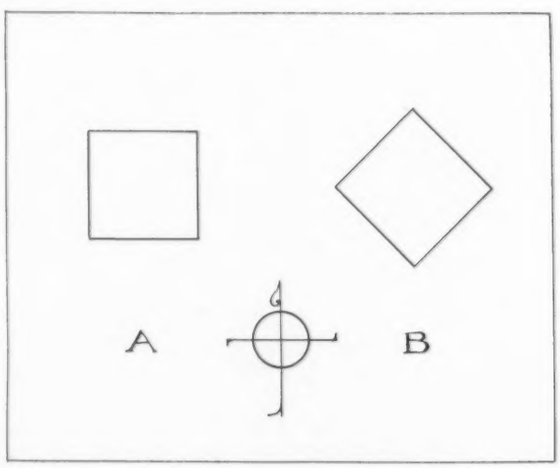


FIG. 2.

area in shadow for one hour or less and the darkest (solid black) area in shadow for eight hours or more. The Roman numerals denote the hour for which each shadow is drawn.*

The following table gives the areas of the shadows cast upon the ground, supposing the cube to represent a building 100 feet square and 100 feet high:

	A. sq. ft.	B. sq. ft.
Area in shadow from 1 to 2 hours	49,922	71,175
" " " " 2 " 3 "	20,275	22,986
" " " " 3 " 4 "	12,053	12,833
" " " " 4 " 5 "	6,818	3,911
" " " " 5 " 6 "	4,616	2,733
" " " " 6 " 7 "	577	2,292
" " " " 7 " 8 "	508	2,115
" " " " 8 " 9 "	405	+900
" " " " 9 " 10 "	350	none.
" " " " 10 " 11 "	250	none.
" " " " 11 " 12 "	200	none.

*In this and all the following diagrams the shadows are drawn for the two periods of the year when the days and nights are of equal length.

†In shadow from 8 to 8¼ hours.

From an inspection of the figure we see that in the case of "A" there is a considerable triangular area to the north of the cube (or building) which is exposed to the sun for a short time only in the early morning and late afternoon, whereas in the case of "B" there is no portion of the area which does not have either the forenoon sun up to 9.45 A.M. or the afternoon sun from 2.15 onward.

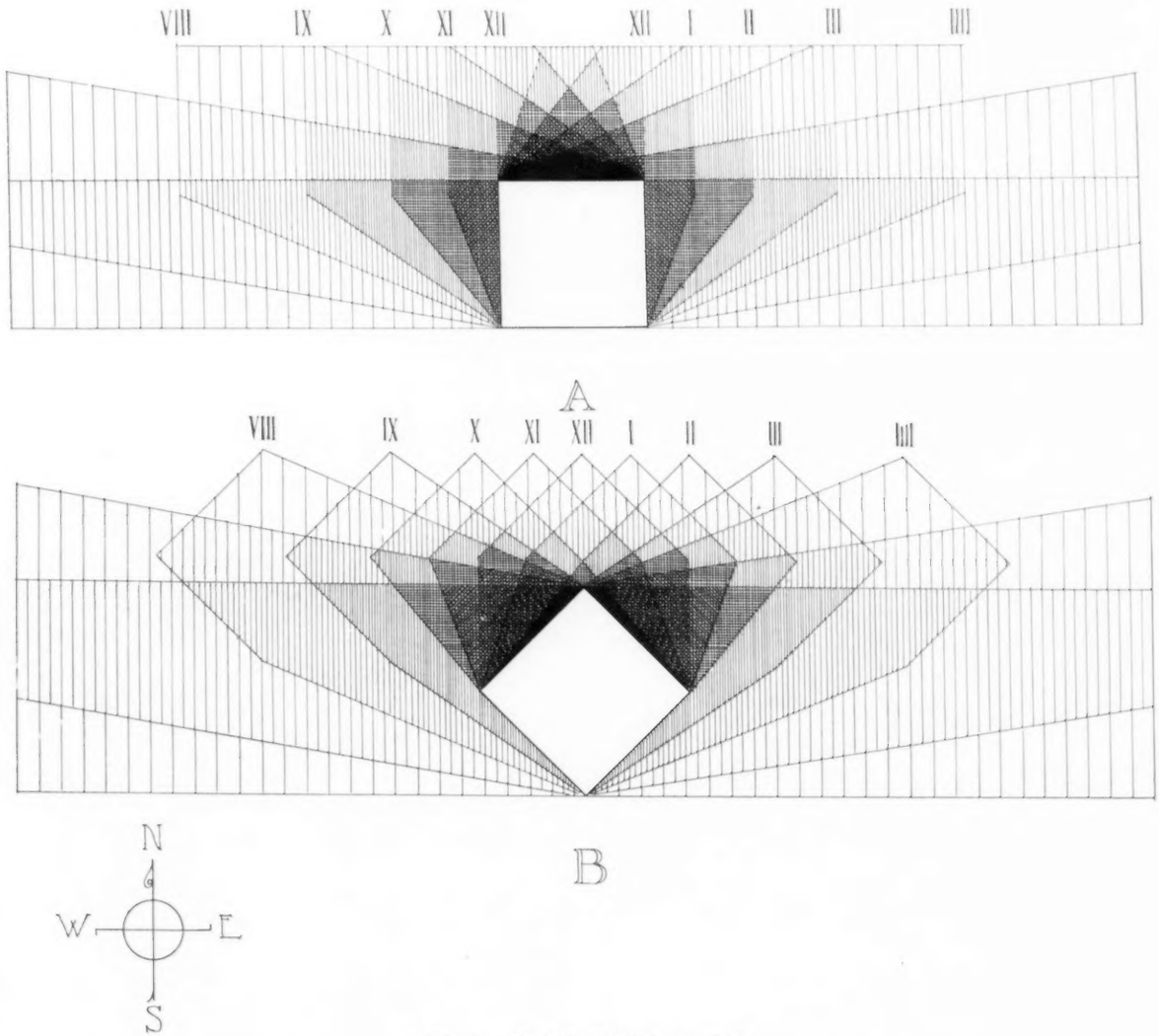


FIG. 3. SHADOW PLAN OF A CUBE.

It will be instructive to study the effect of a diminution in the height of the building.

If we draw out the shadow diagram for an object one half the height of a cube (corresponding to a building 100 feet square and 50 feet high) we shall find that in the case of the position "B" *all* of the shadow areas are diminished in size, whereas in the case of the position "A" only those areas are diminished in size which are in shadow for six hours or less. (See Fig. 4.)

From a study of these diagrams we are led to the conclusion that a square building placed squarely north and south shades the ground area around it considerably

more than the same building placed at an angle of forty-five degrees to the meridian.

In the series of diagrams which follow are shown the principal types of hospital plan placed in various positions in regard to the sun.

As it would be impracticable in the space at my command to give a separate shadow plan for each one, I have represented for each figure only that portion of the area which is without sunlight from 8 A. M. to 4 P. M. or longer, the lightest tint indicating area without sunlight from 8 A. M. to 4 P. M., the medium tint area without sunlight

The light and medium tinted shadow areas would not be affected by an increase in height, but those in solid black would be increased or diminished according to the height of the blocks. This is important to bear in mind in studying the diagrams.

The single straight block (Fig. 5) may fairly typify a single ward pavilion as well as the simplest type of block plan.

There is a difference of opinion as to the best orientation for ward pavilions.

In a description of the Heidelberg University Hospital,

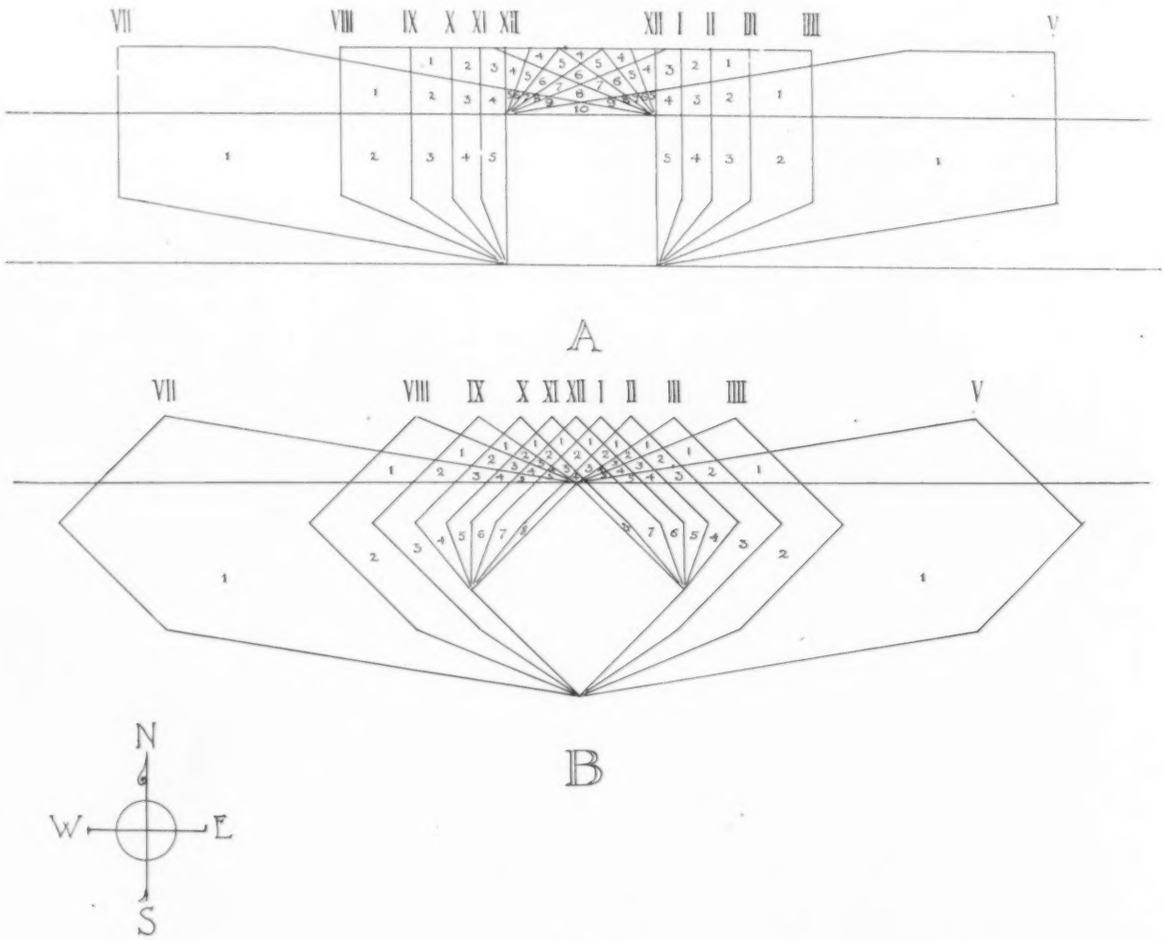


FIG. 4.

from 8 A. M. to 6 P. M. or from 6 A. M. to 4. P. M., and the solid black area without any sunlight whatever during the day.

In these diagrams I have followed Burdett's classification of hospital plans, to wit:

The single straight block.

Two blocks arranged as an L.

Three blocks arranged as a U.

Three blocks arranged as an H.

In the case of the single straight block, the height is supposed to be equal to its width, and in the case of the compound plans, to be equal to the width of the wings.

given in Mouatt & Snell's "Hospital Construction and Management," it is stated that "the question of the aspect of the windows of the wards was only settled after very great deliberation by the authorities charged with the erection of this building, and Dr. Knauff gives in his work* a very exhaustive account of the considerations which ultimately led to the determination of placing the axes of the various pavilions as nearly east and west as the shape of the ground would permit. Actually their direction is about E. S. E. and W. N. W. It is remark-

* Das Neue Academische Krankenhaus in Heidelberg.

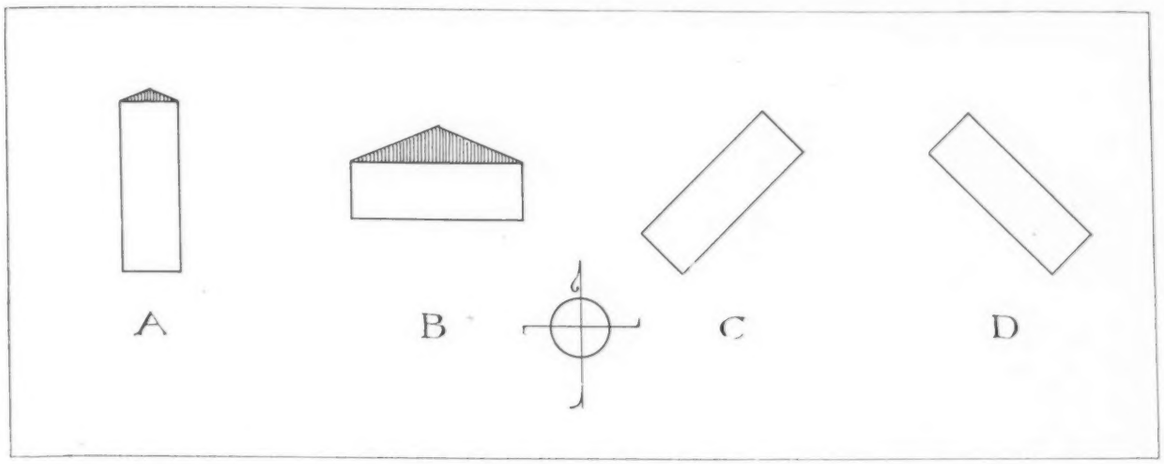


FIG. 5. THE SINGLE STRAIGHT BLOCK.

able that the Friedrichshain building authorities, as the result of their deliberations on this question, arrived at an exactly opposite conclusion, and placed the axes of their pavilions directly north and south."

In a list of 38 hospitals, given in the same work, there are 13 in which the pavilions are placed approximately north and south, 15 in which they are placed approximately east and west, 6 in which they are placed approximately northwest and southeast, and 4 in which they are placed approximately northeast and southwest.

The following table gives the percentage of wall surface which is without sun at any time during the day for the four different positions shown in Fig. 5:

A — 12½ %.	C — None.
B — 37½ %.	D — None.

It will be observed that in the case of "A" and "B" there is a considerable area of ground to the north of the buildings which is in shadow from 8 A. M. until 4 P. M., or practically without any sunlight at all during the day; whereas, in the case of either "C" or "D," there is no portion of the ground around the buildings which is without sunlight.

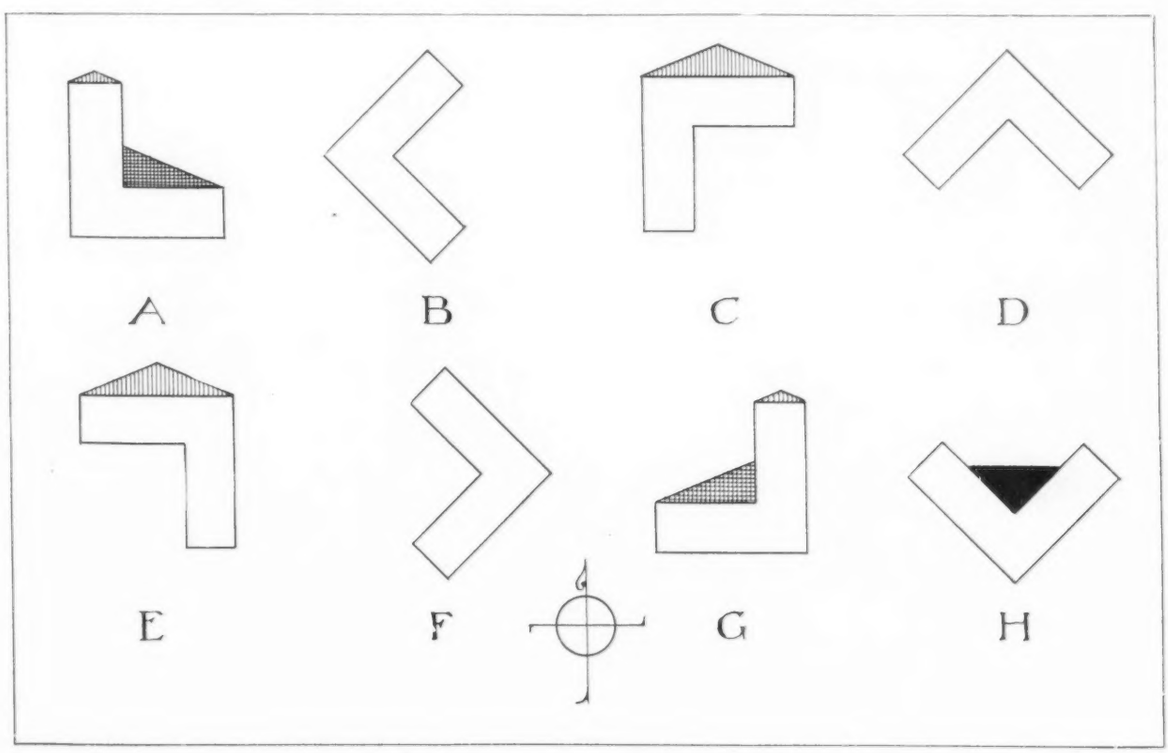


FIG. 6. TWO BLOCKS ARRANGED AS AN L.

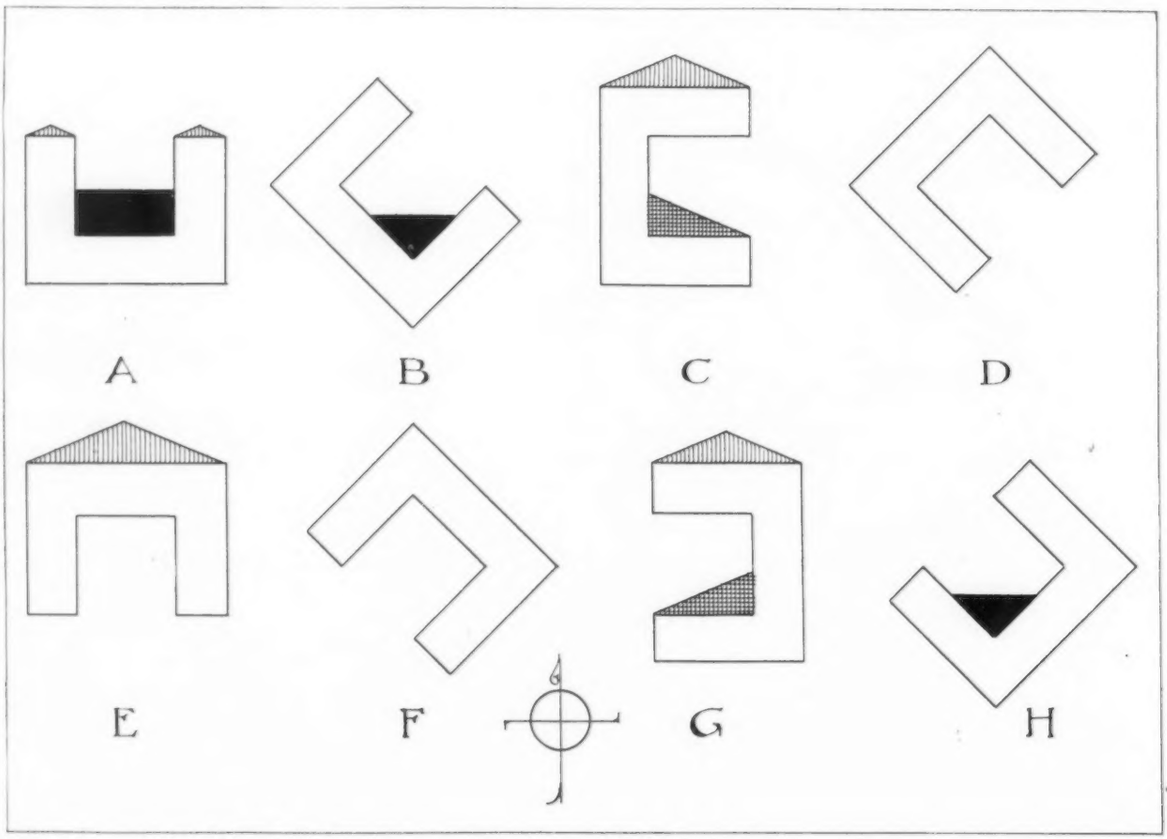
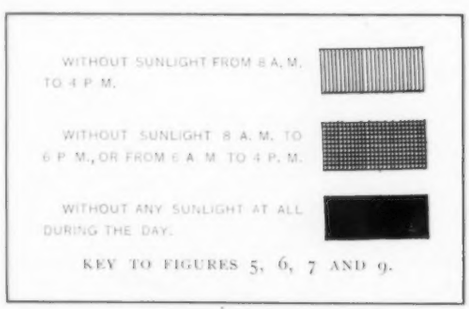


FIG. 7. THREE BLOCKS ARRANGED AS A U.

In the position "A" the windows on each of the long sides have the sun for an equal amount of time during the day, the windows on the east side having the sun during the forenoon and the west windows the afternoon sun. For a pavilion divided up into separate rooms, with windows only on one side, this might be considered an advantage.

Bearing in mind, however, that the forenoon sun is more prized than the afternoon sun, it is suggested that the position "D" is equally as good as "A" in this respect, inasmuch as one of the long sides has the sun from sunrise until 9.45 A. M., and the other from 9.45 A. M. until sunset, each long side thus having a share of the forenoon sun.



KEY TO FIGURES 5, 6, 7 AND 9.

The plan of two blocks arranged as an L (Fig. 6) is a common one for hospitals on the block plan, especially on confined sites.

From an inspection of the diagram it is seen that the positions "B," "D," and "F" are preferable to any of the others, while "H" is the least good.

The following table gives the percentage of wall surface without sun at any time during the day (Fig. 6):

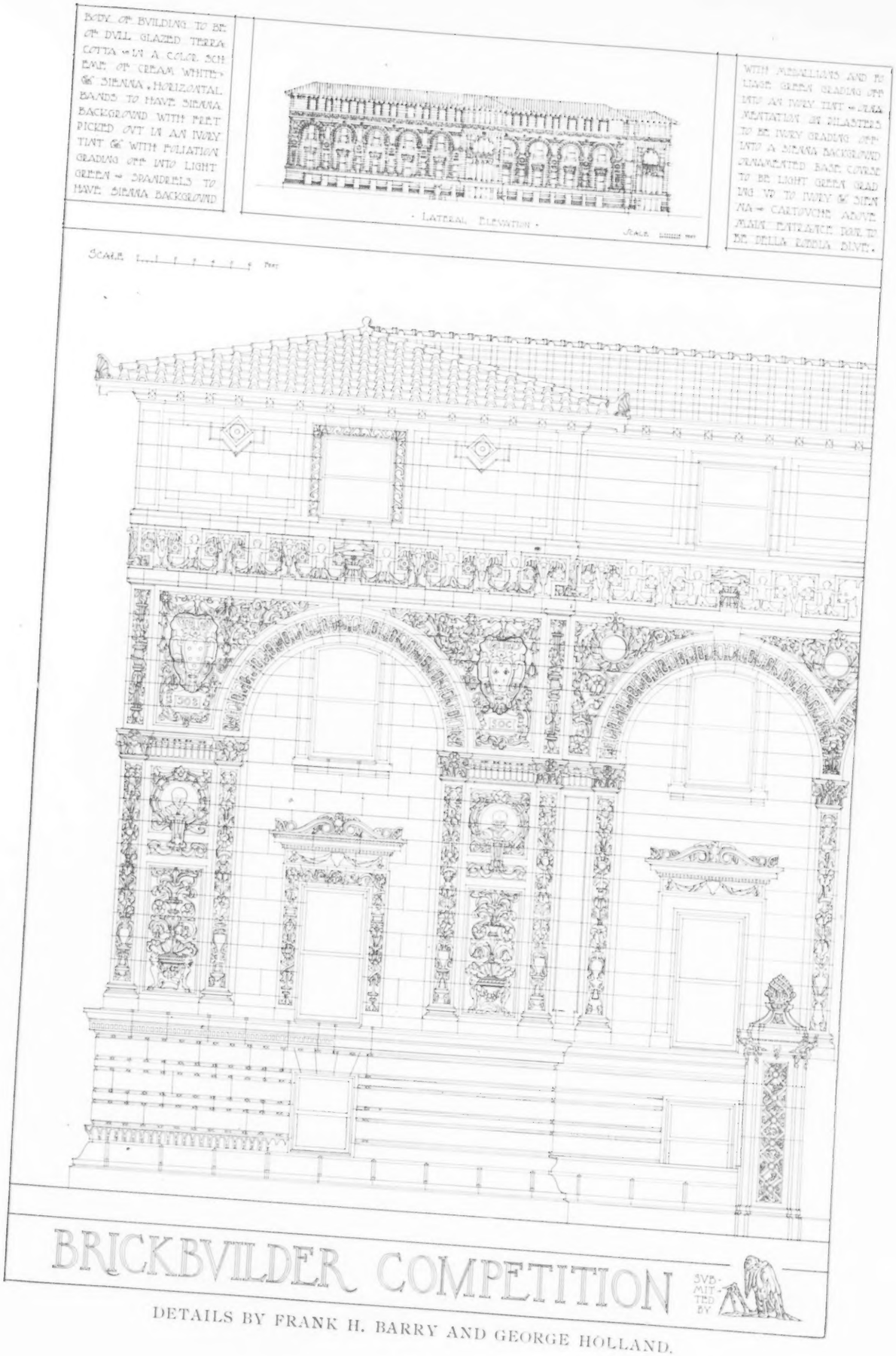
A — 28%.	E — 25%.
B — None.	F — None.
C — 25%.	G — 28%.
D — None.	H — 10%.

A good form of block plan is that of three blocks arranged as a U, giving a court enclosed on three sides (Fig. 7).

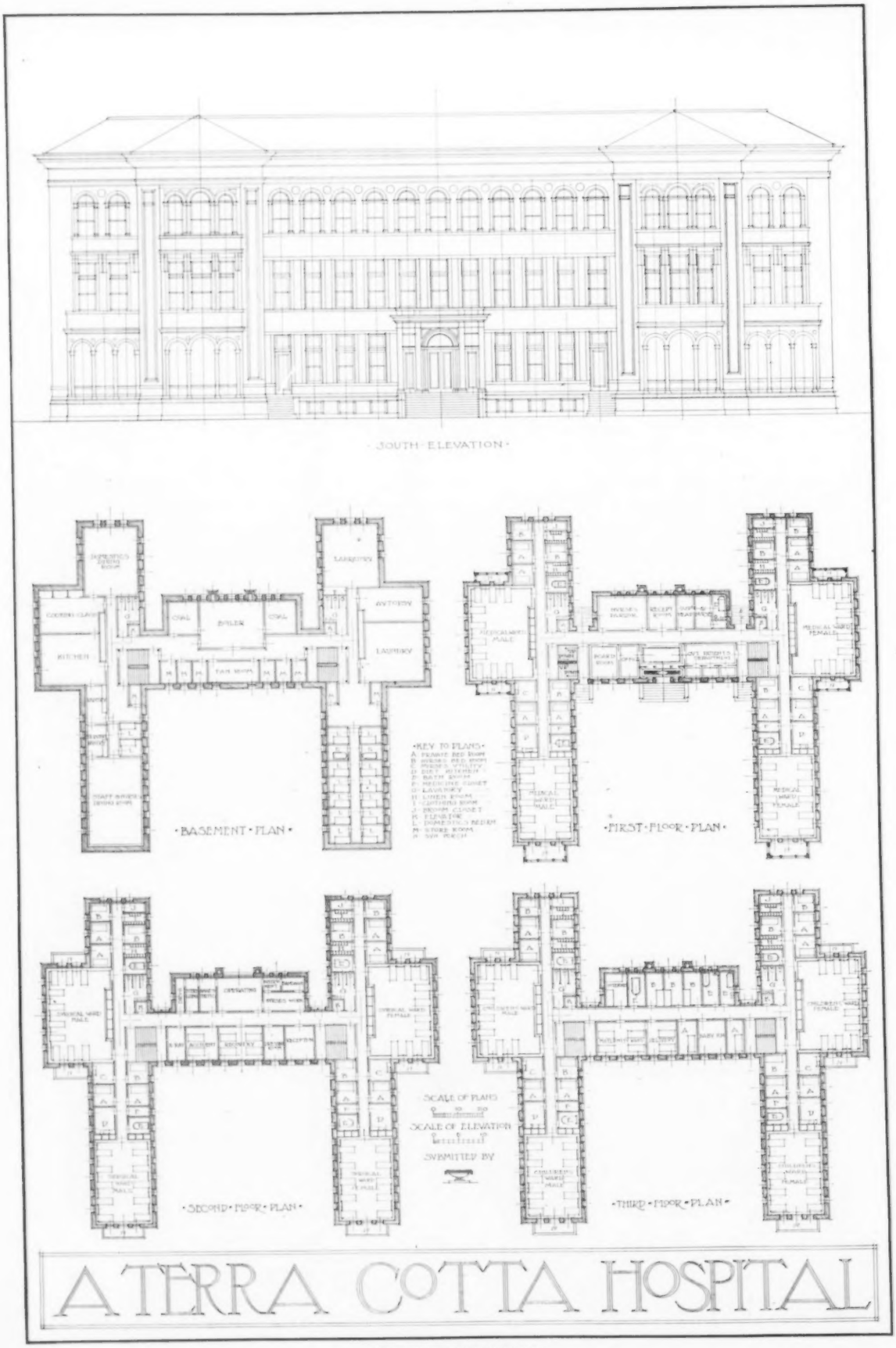
The best position for this type of plan is either "D" or "F," which are equally good.

The bad effect of such a court with a north aspect is easily seen from an inspection of the diagram ("A"). The northeast ("B") or northwest aspect ("H") is much better. This may be seen more clearly from the isometric view (Fig. 9), which contrasts a court with a north aspect with one having a northeast aspect, the shaded portion in each figure denoting the wall and ground surfaces which are without sun at any time during the day. Note especially the small amount of surface in shade in the court with the northeast aspect, almost insignificant in the case of a one-story building.

The following table gives the percentage of wall surface without sun at any time during the day (Fig. 7):

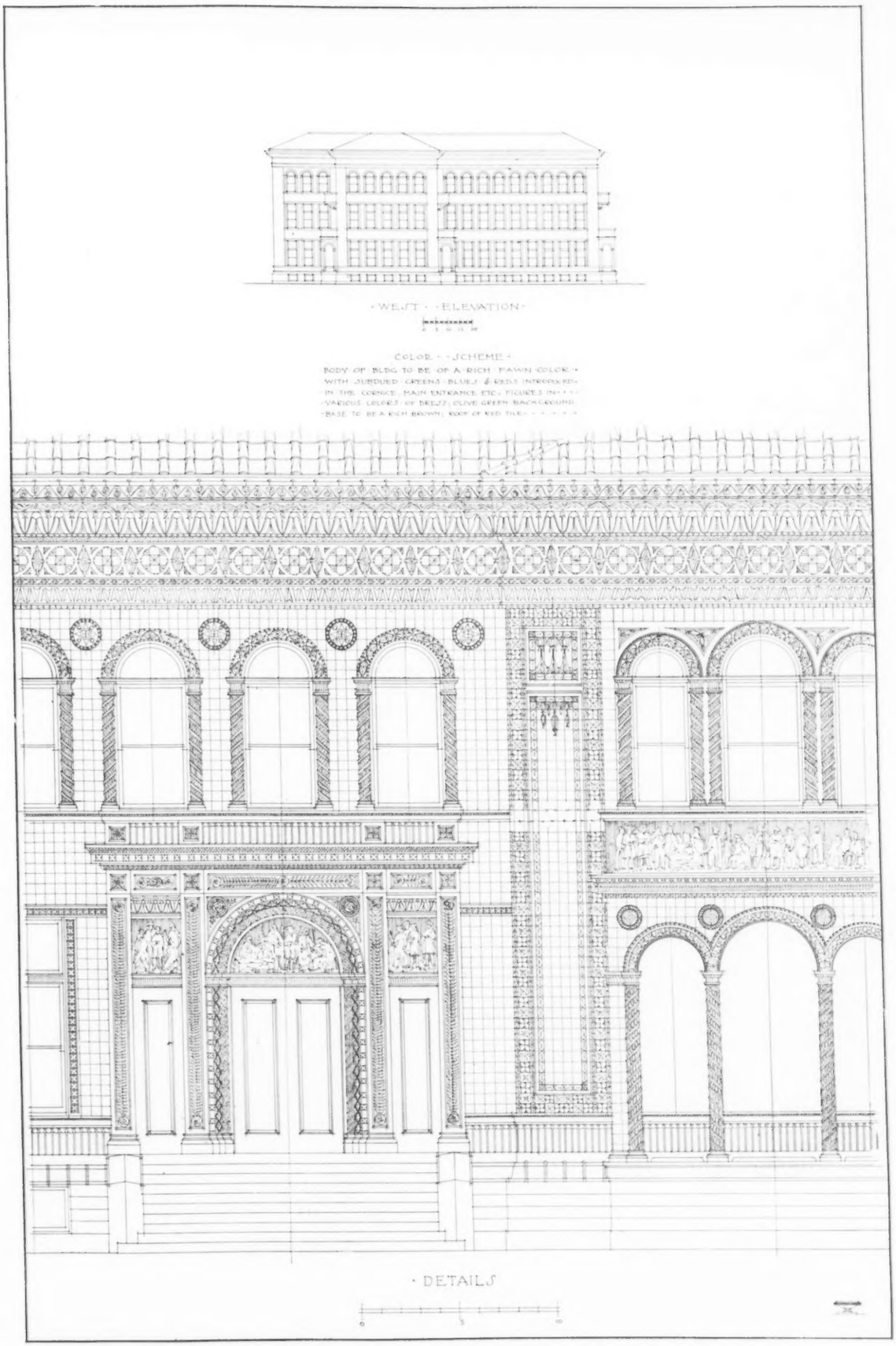

BODY OF BVILDING TO BE OF DVLL GLAZED TERRA COTTA IN A COLOR SOMEWHAT OF CREAM WHITE & SIENNA. HORIZONTAL BANDS TO HAVE SIENNA BACKGROUND WITH FRET PICKED OVT IN AN IVORY TINT & WITH FOLIATION GRADING OFF INTO LIGHT GREEN. SPANDRELS TO HAVE SIENNA BACKGROUND
WITH MEDALLIONS AND FOLIAGE GREEN GRADING OFF INTO AN IVORY TINT. ORNAMENTATION OF PILASTERS TO BE IVORY GRADING OFF INTO A SIENNA BACKGROUND. ORNAMENTED BASE COURSE TO BE LIGHT GREEN GRADING VP TO IVORY & SIENNA. CARTOVCHES ABOVE MAIN ENTRANCE TOVL TO BE DELLA ROBIA BLVE.
LATERAL ELEVATION
SCALE
BRICKBVILDER COMPETITION
SVBMITTED BY

DETAILS BY FRANK H. BARRY AND GEORGE HOLLAND.

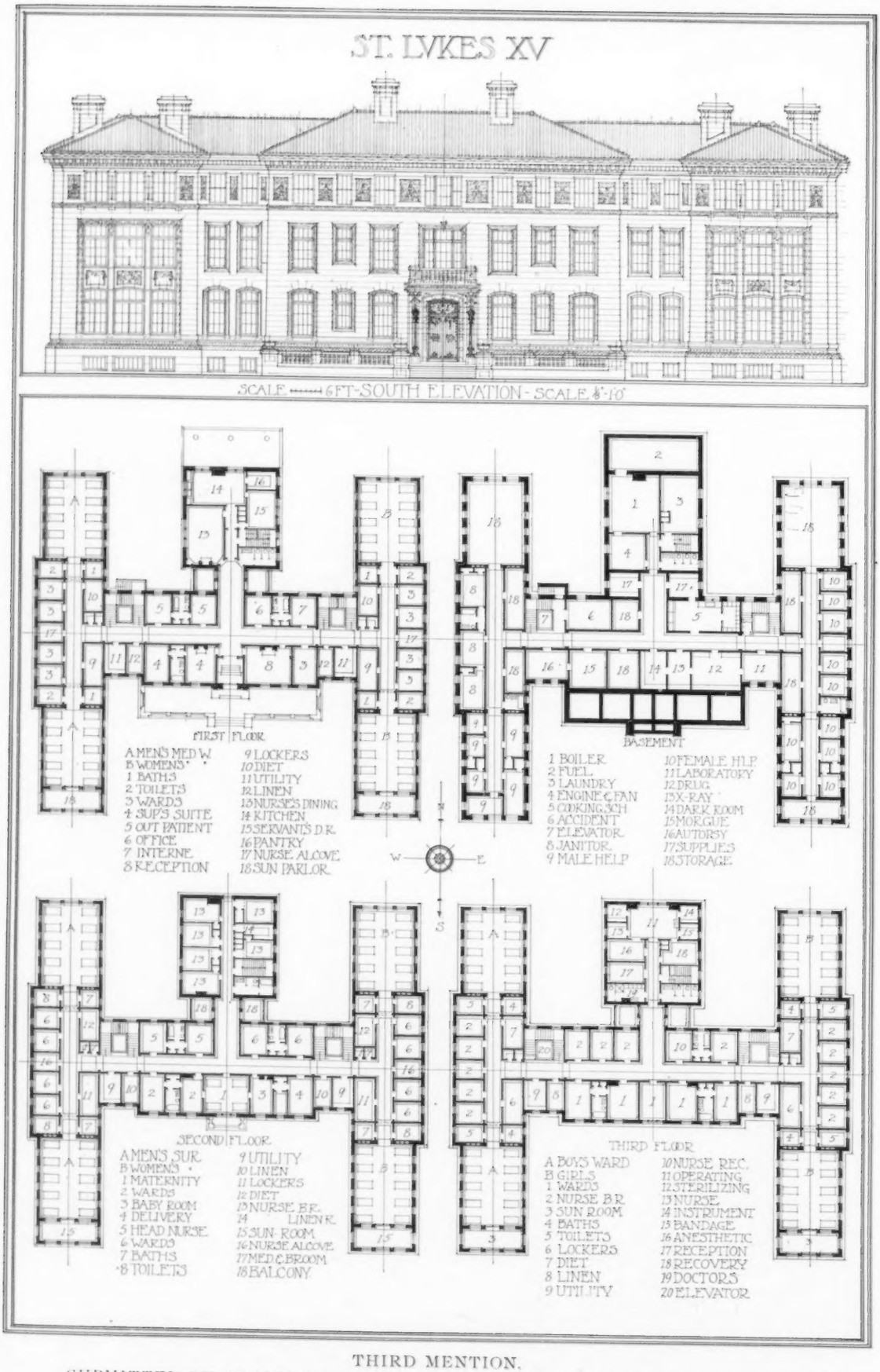


SECOND MENTION.

SUBMITTED BY LOUIS C. WELLMAN AND GEORGE F. FRANKENBERGER, CINCINNATI, O.


WEST ELEVATION
COLOR SCHEME
BODY OF BLDG TO BE OF A RICH FAWN COLOR
WITH SUBDUED GREENS BLUES & REDS INTRODUCED
IN THE CORNICE, MAIN ENTRANCE ETC., FIGURES IN
VARIOUS COLORS OF BRETT; OLIVE GREEN BACKGROUND
BASE TO BE A RICH BROWN; ROOF OF RED TILE
DETAILS

DETAILS BY LOUIS C. WELLMAN AND GEORGE F. FRANKENBERGER.



THIRD MENTION.

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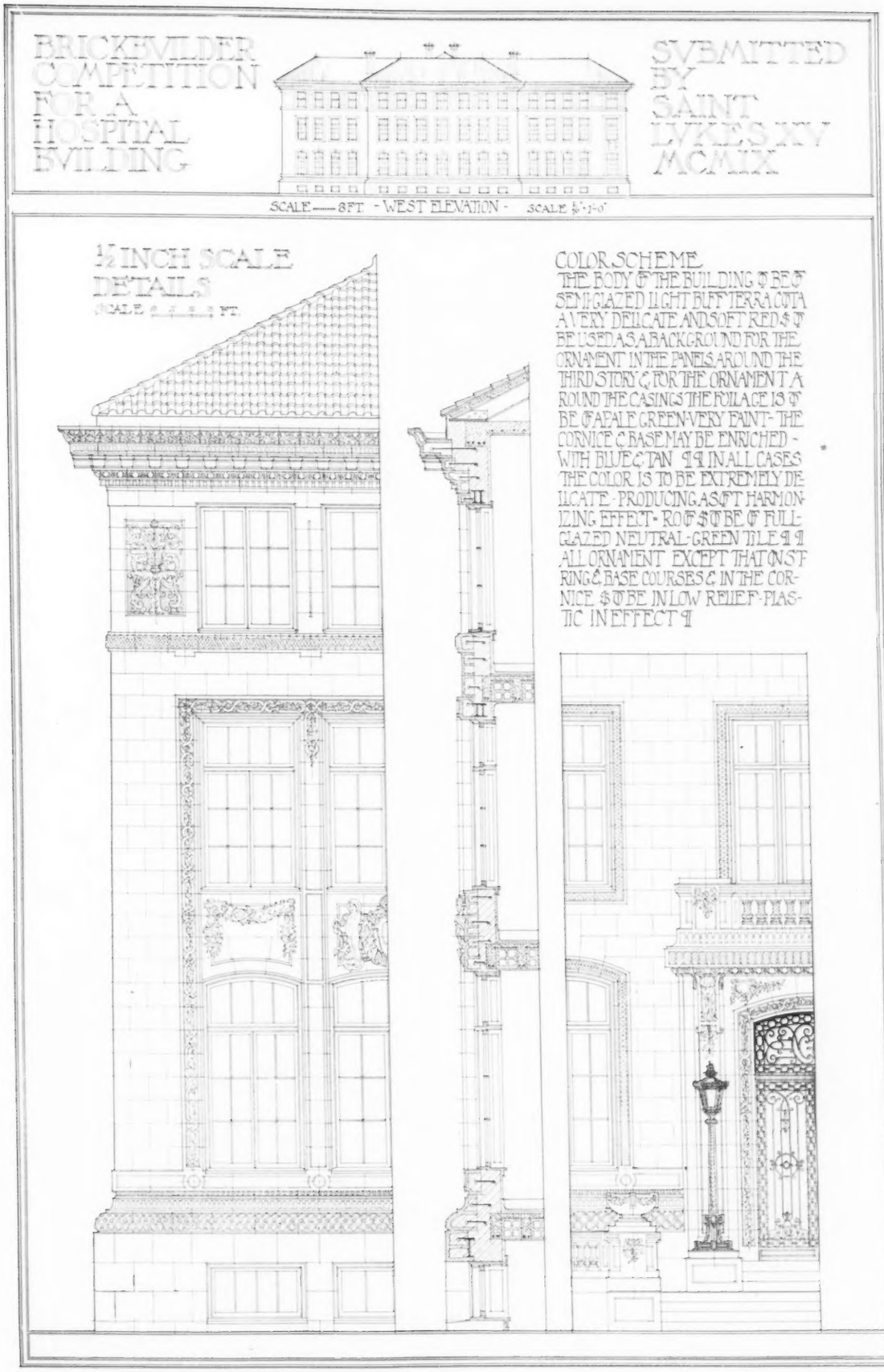
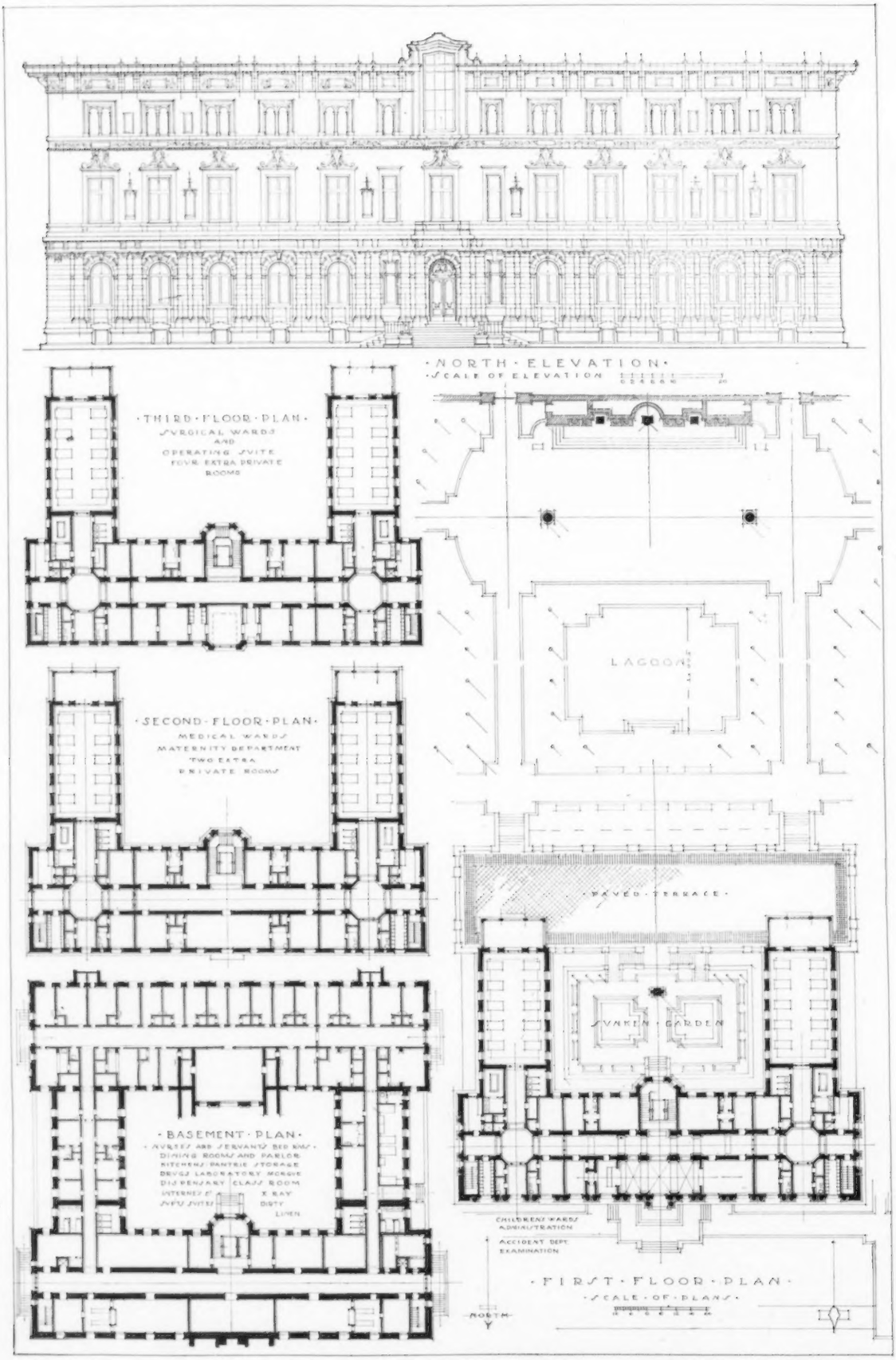
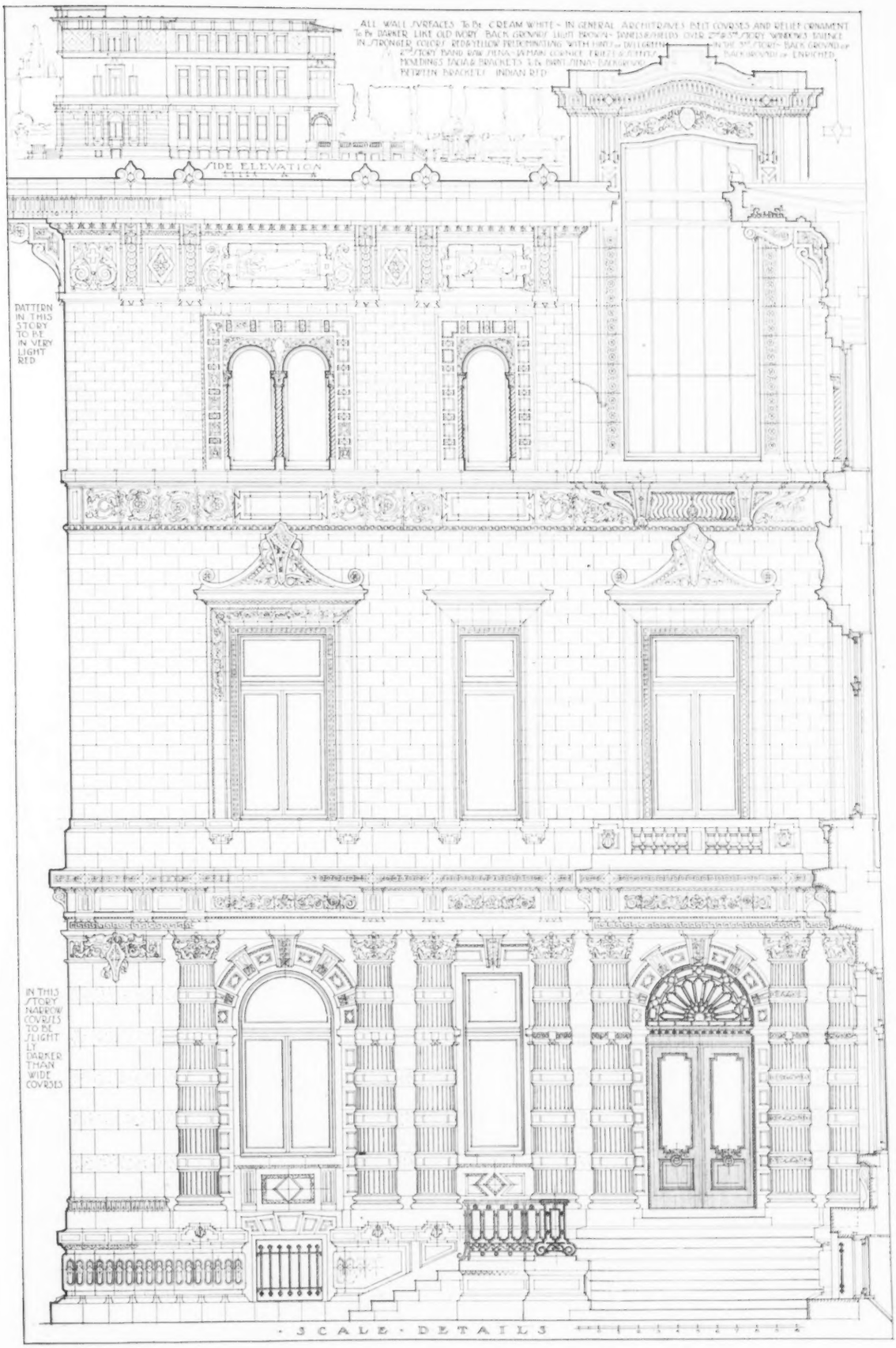

BRICKBUILDER
COMPETITION
FOR A
HOSPITAL
BUILDING
SUBMITTED
BY
SAINT
LUKES XIV
MCMIX
SCALE —— 8FT. - WEST ELEVATION - SCALE 1/8"-1'-0"
½ INCH SCALE
DETAILS
SCALE
COLOR SCHEME
THE BODY OF THE BUILDING TO BE OF
SEMI GLAZED LIGHT BUFF TERRA COTA
A VERY DELICATE AND SOFT RED TO
BE USED AS A BACKGROUND FOR THE
ORNAMENT IN THE PANELS AROUND THE
THIRD STORY & FOR THE ORNAMENT A
ROUND THE CASINGS THE FOLIAGE IS TO
BE OF A PALE GREEN VERY FAINT- THE
CORNICE & BASE MAY BE ENRICHED -
WITH BLUE & TAN ¶ IN ALL CASES
THE COLOR IS TO BE EXTREMELY DE-
LICATE - PRODUCING A SOFT HARMON-
IZING EFFECT - ROOF TO BE OF FULL-
GLAZED NEUTRAL-GREEN TILE ¶ ¶
ALL ORNAMENT EXCEPT THAT ON STR-
RING & BASE COURSES & IN THE COR-
NICE TO BE IN LOW RELIEF - PLAS-
TIC IN EFFECT ¶

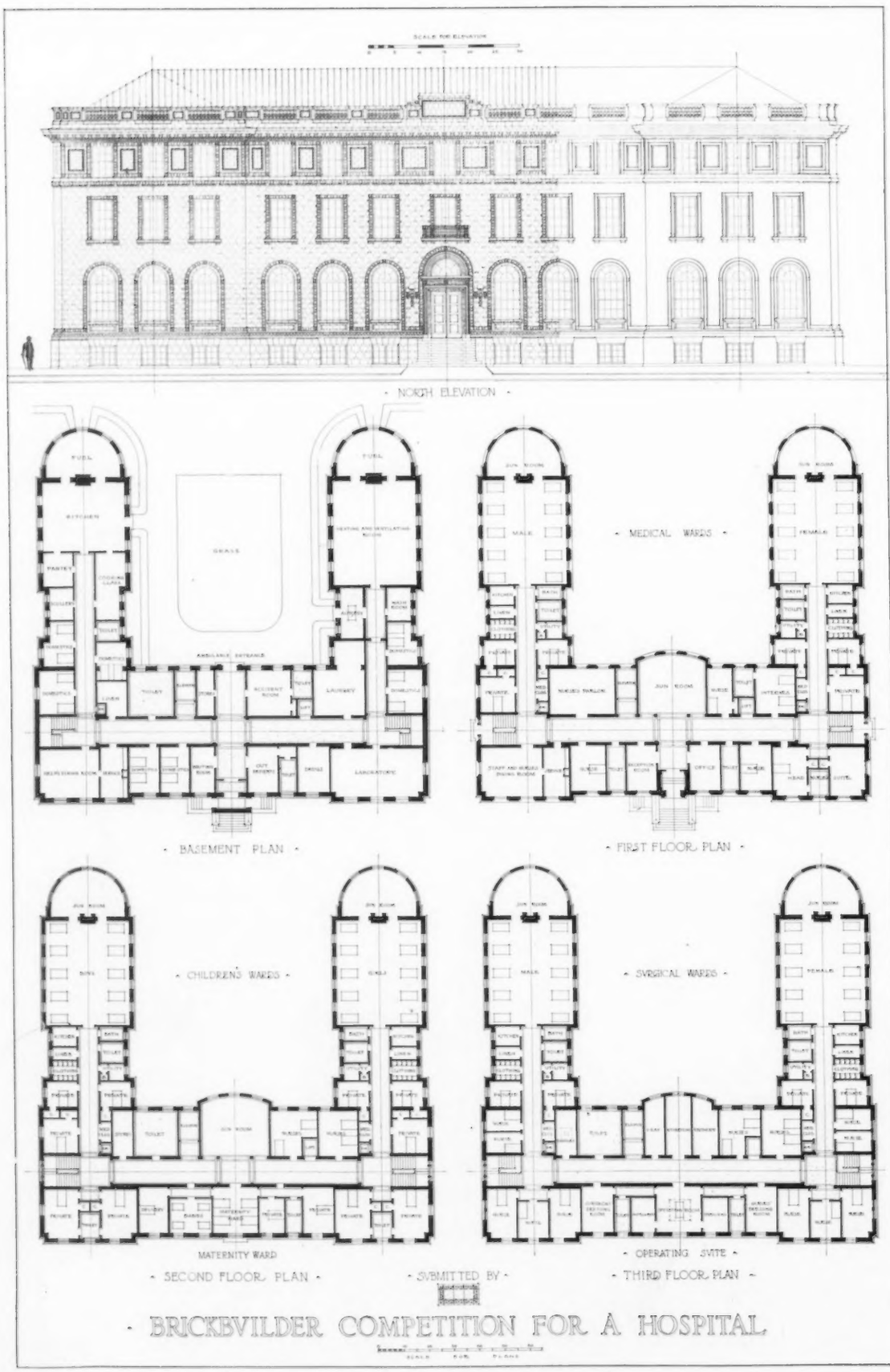
DETAILS BY FRANK HOWEND AND ANGELO R. CLAS.



FOURTH MENTION.
SUBMITTED BY NORMAN T. VORSE, DES MOINES, IOWA.


ALL WALL SURFACES To Be CREAM WHITE - IN GENERAL. ARCHITRAVES BELT COURSES AND RELIEF ORNAMENT To Be DARKER LIKE OLD IVORY. BACK GROUND LIGHT BROWN - PANELS & FIELDS OVER 2ND & 3RD STORY WINDOWS SALMON IN STRONGER COLORS. RED & YELLOW PREDOMINATING WITH HINTS OF DELFT BLUE IN THE 3RD STORY BACK GROUND OF 4TH STORY PANEL AND BALCONIES - MAIN CORNICE FRIEZE & ATTIC BACK GROUND OF ENRICHED MOULDINGS FACIA & BRACKETS To Be PAINT PINK - BACK GROUND BETWEEN BRACKETS INDIAN RED
SIDE ELEVATION
PATTERN IN THIS STORY TO BE IN VERY LIGHT RED
IN THIS STORY NARROW COURSES TO BE SLIGHTLY DARKER THAN WIDE COURSES
SCALE - DETAILS

DETAILS BY NORMAN T. VORSE.



FIFTH MENTION.

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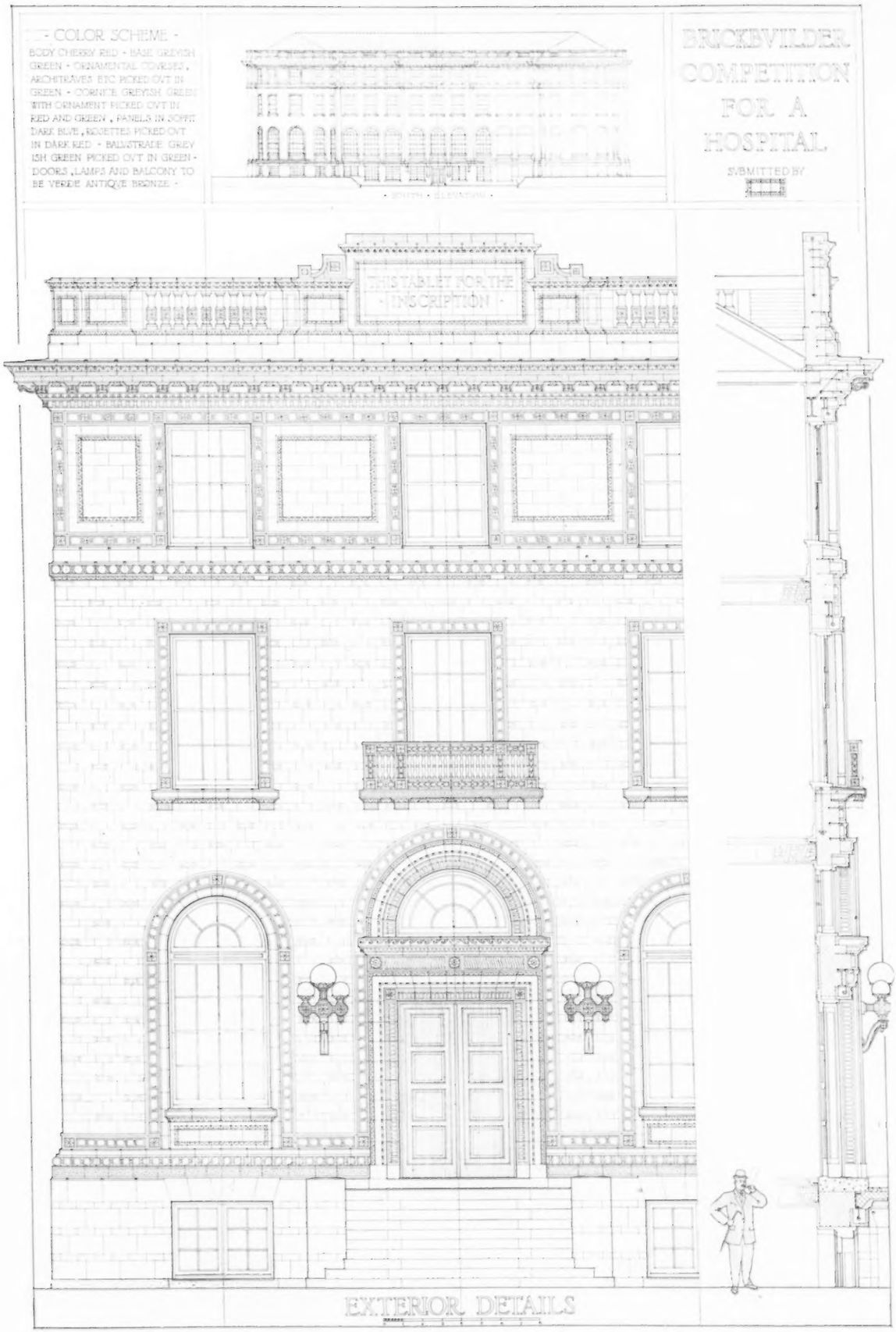
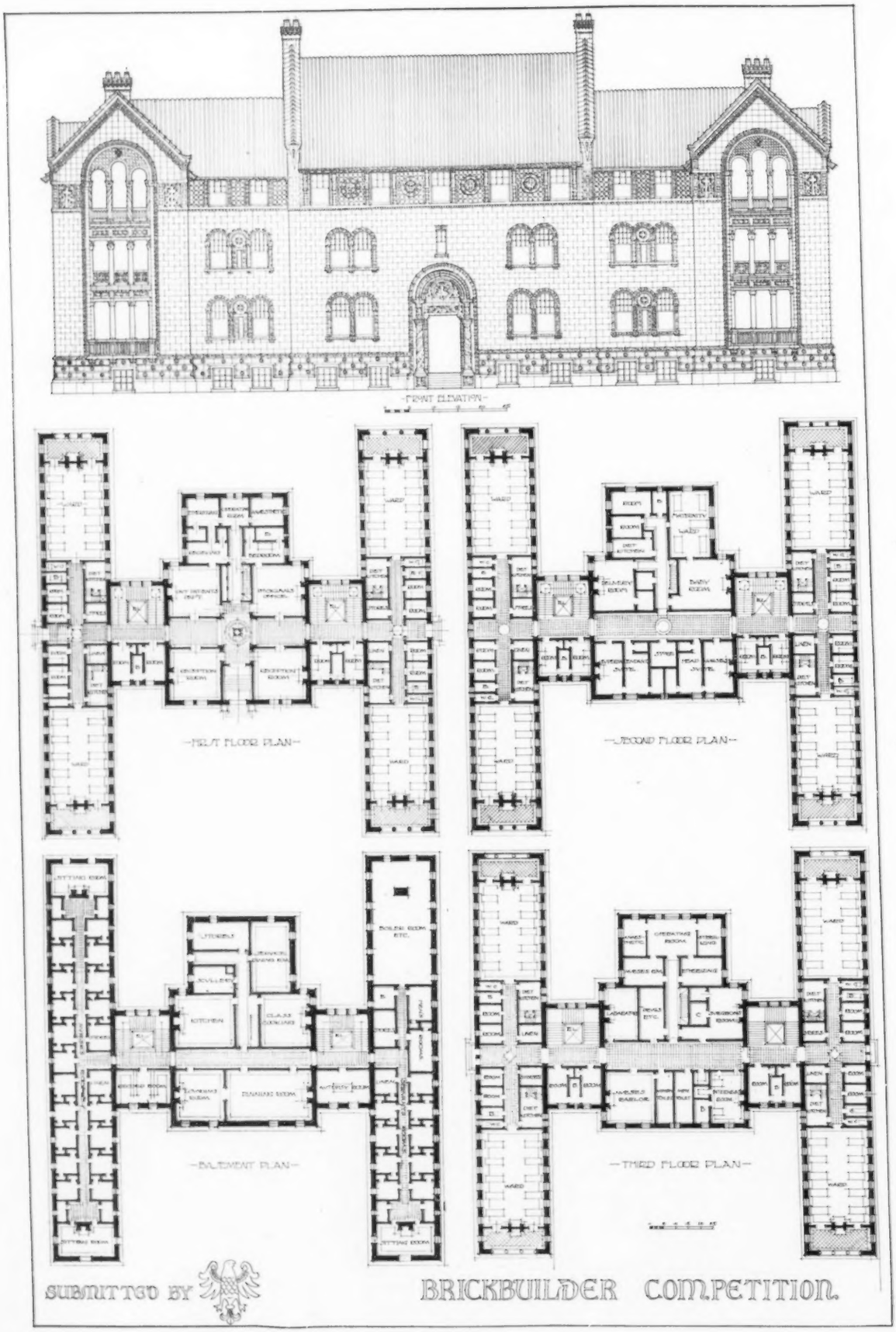
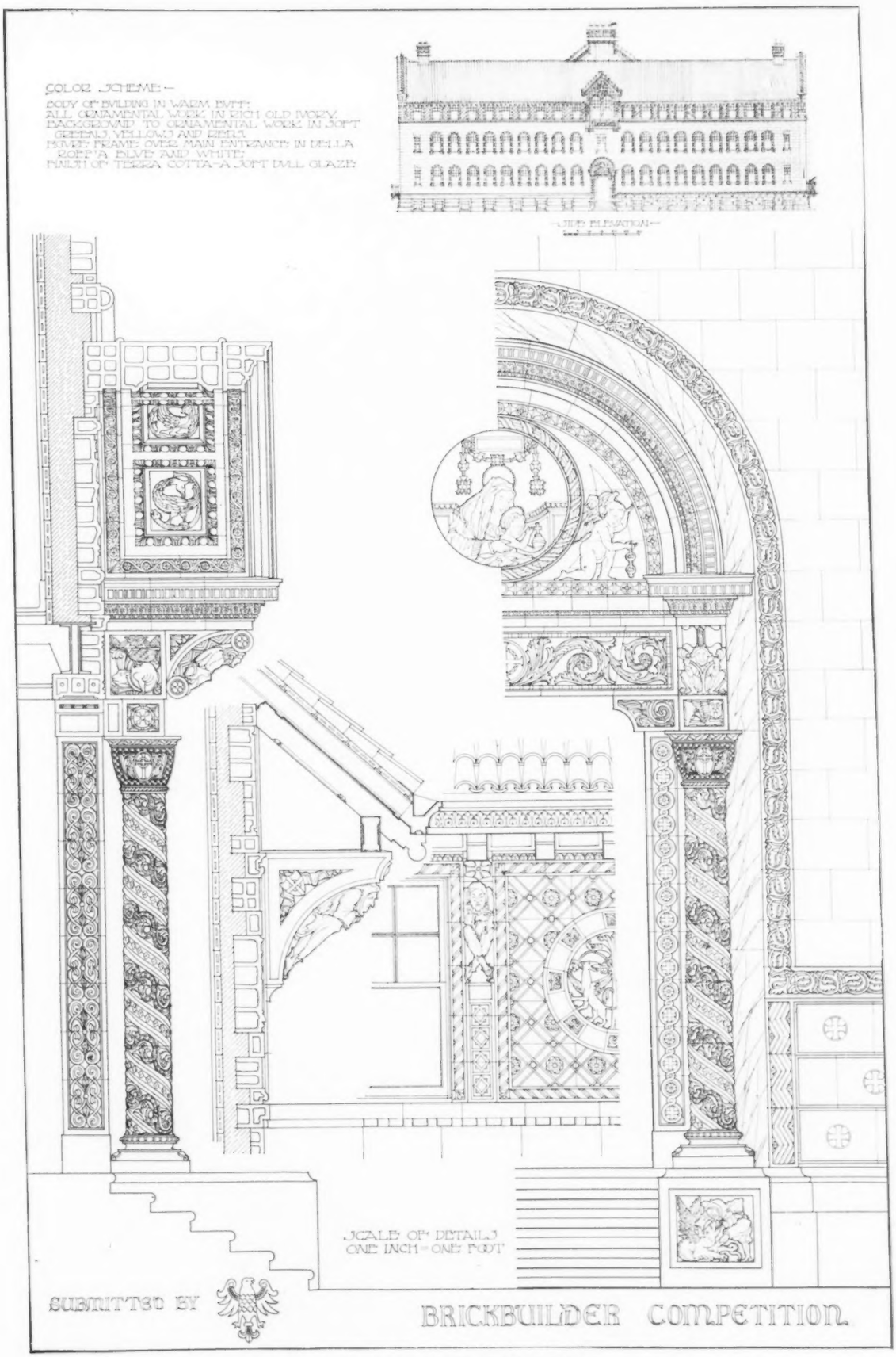

- COLOR SCHEME -
BODY CHERRY RED - BASE GREYISH GREEN - ORNAMENTAL COURSES, ARCHITRAVES ETC PICKED OVT IN GREEN - CORNICE GREYISH GREEN WITH ORNAMENT PICKED OVT IN RED AND GREEN , PANELS IN SOFFIT DARK BLVE , ROSETTES PICKED OVT IN DARK RED - BALVSTRADE GREYISH GREEN PICKED OVT IN GREEN - DOORS ,LAMPS AND BALCONY TO BE VERDE ANTIQVE BRONZE -
BRICKBVILDER COMPETITION FOR A HOSPITAL
SVBMITTED BY
THIS TABLET FOR THE INSCRIPTION
EXTERIOR DETAILS

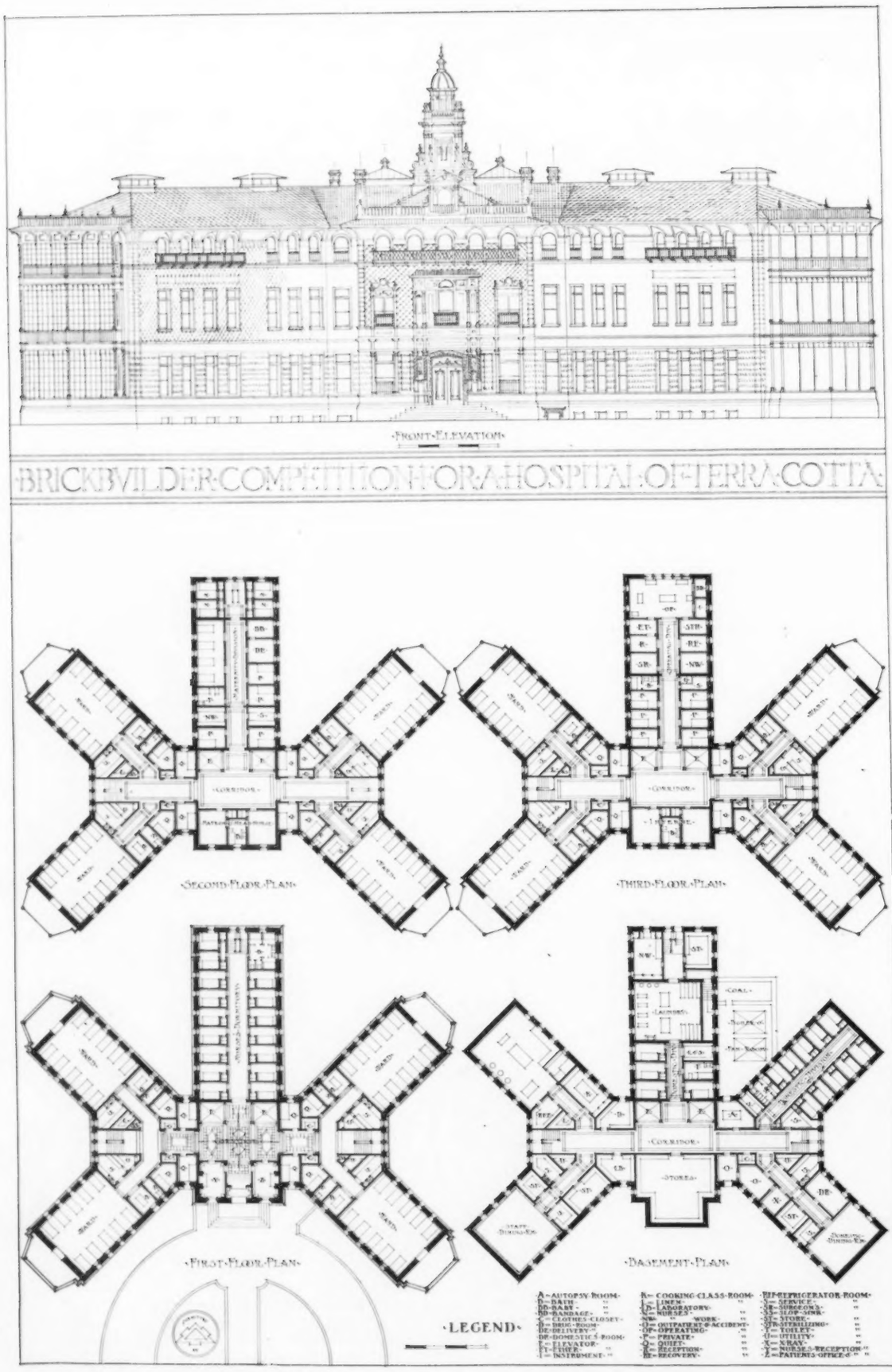
DETAILS BY A. B. FITZ-SIMONS AND L. P. WHEAT, JR.



SIXTH MENTION.
AUTHOR'S NAME UNKNOWN.


COLOR SCHEME:—
BODY OF BUILDING IN WARM BUFF;
ALL ORNAMENTAL WORK IN RICH OLD IVORY.
BACKGROUND TO ORNAMENTAL WORK IN SOFT
GREENS, YELLOWS AND BUFFS.
RIVER FRAME OVER MAIN ENTRANCE IN DELLA
ROBBIA BLUE AND WHITE.
FINISH OF TERRA COTTA—A SOFT DULL GLAZE.
SCALE OF DETAILS
ONE INCH = ONE FOOT
SUBMITTED BY
BRICKBUILDER COMPETITION.

DETAILS, SIXTH MENTION.
AUTHOR'S NAME UNKNOWN.



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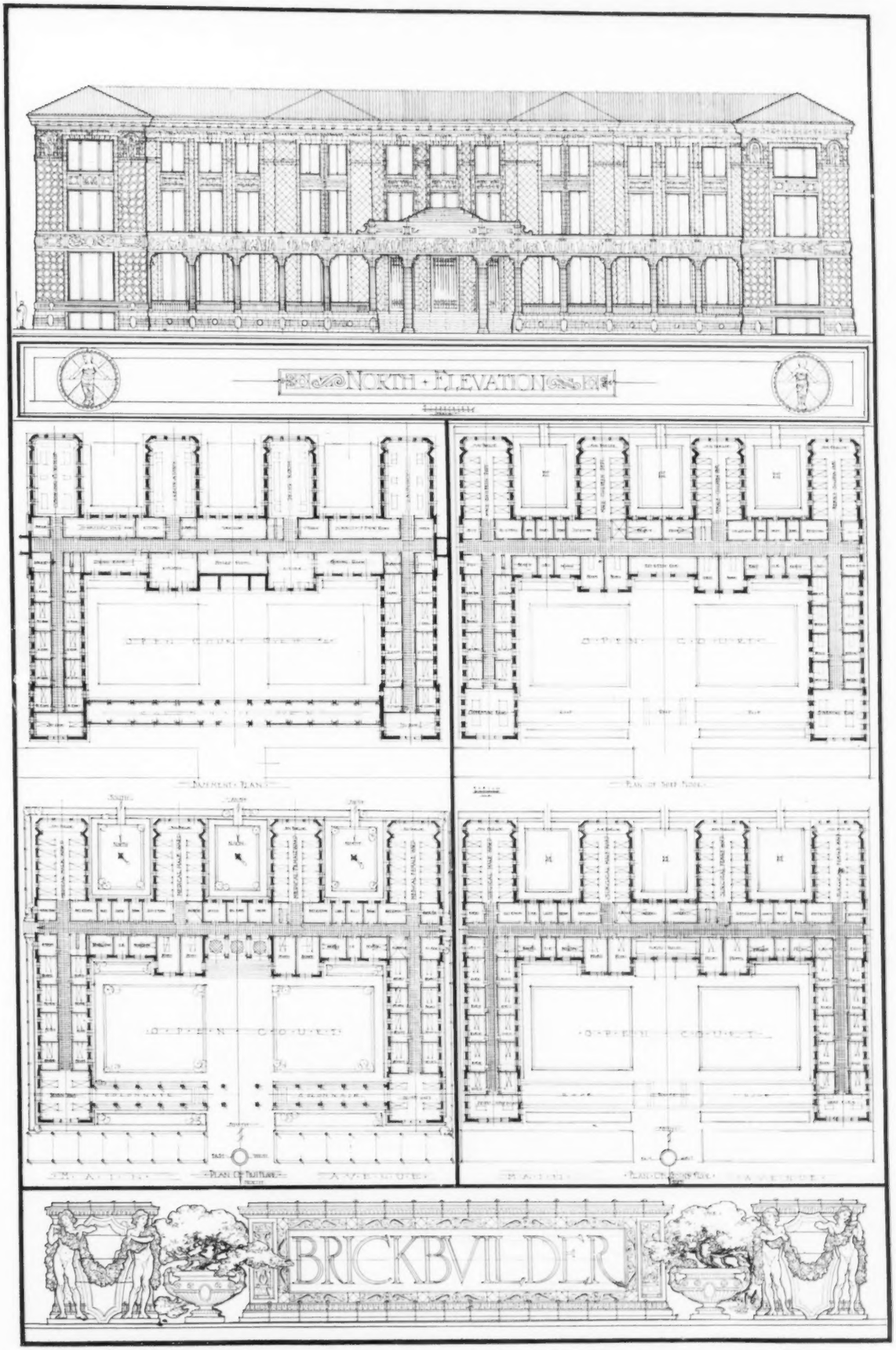
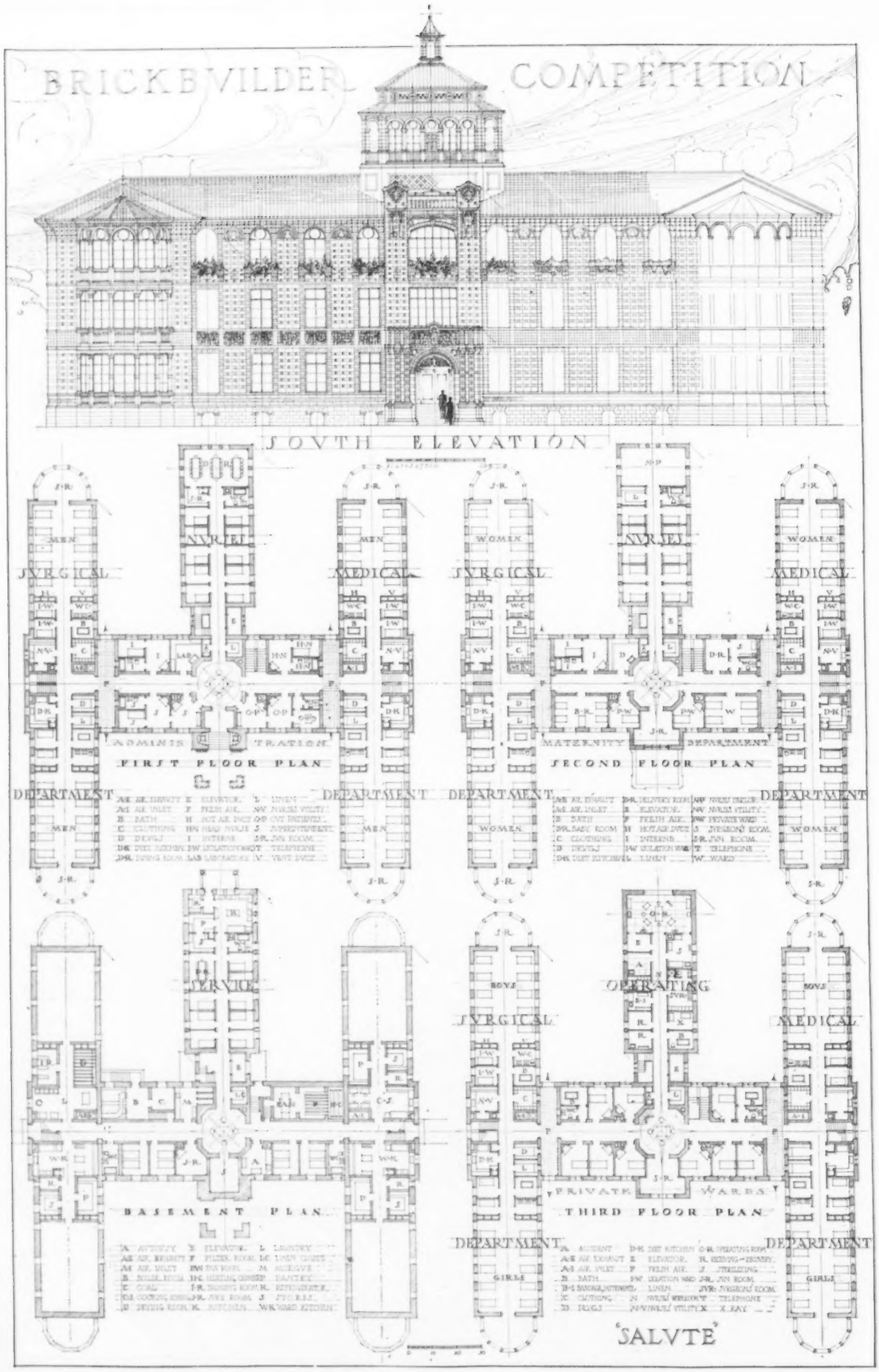
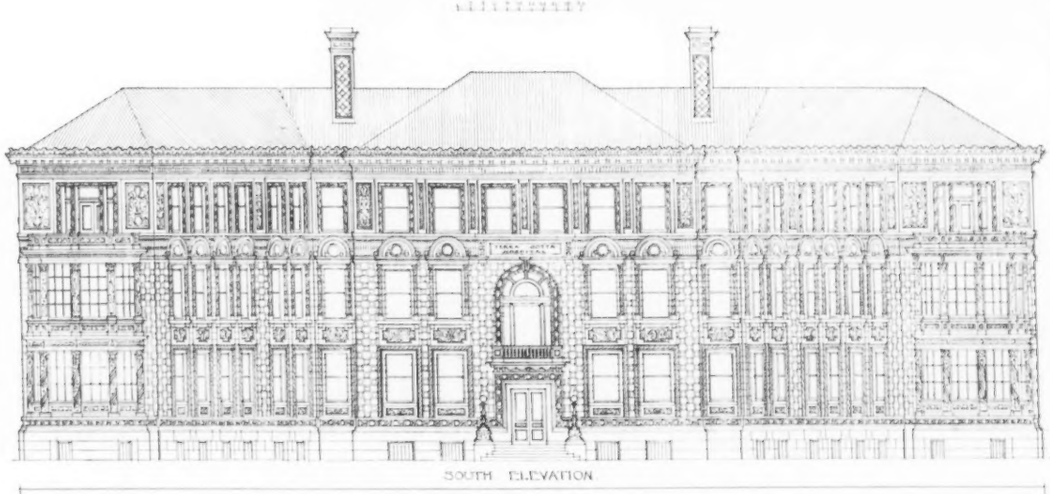


SUBMITTED BY FREDERICK A. SOLDWEDEL, NEW YORK CITY.

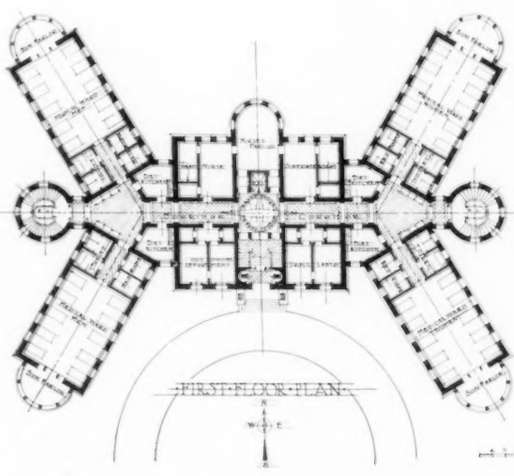


SUBMITTED BY E. DONALD ROBB AND ROBERT TAPPAN, NEW YORK CITY.

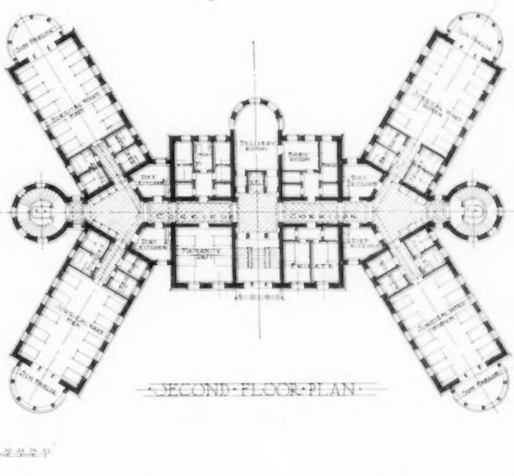


SOUTH ELEVATION

A HOSPITAL BVILDING
BRICKBVILDER COMPETITION



FIRST FLOOR PLAN



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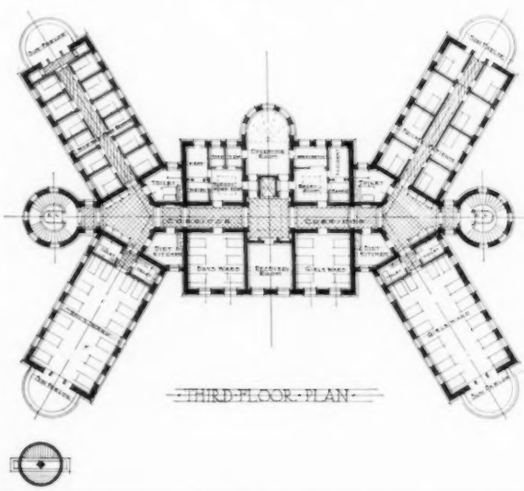

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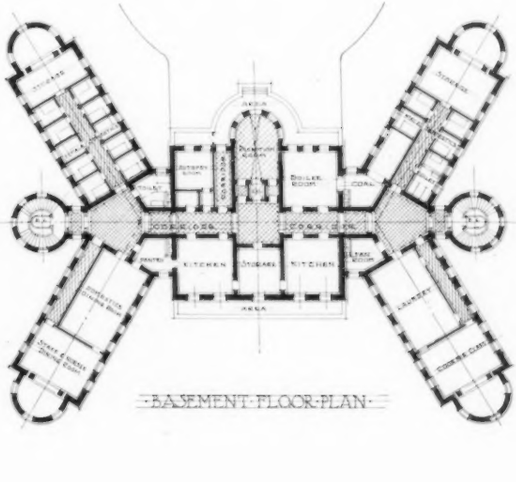
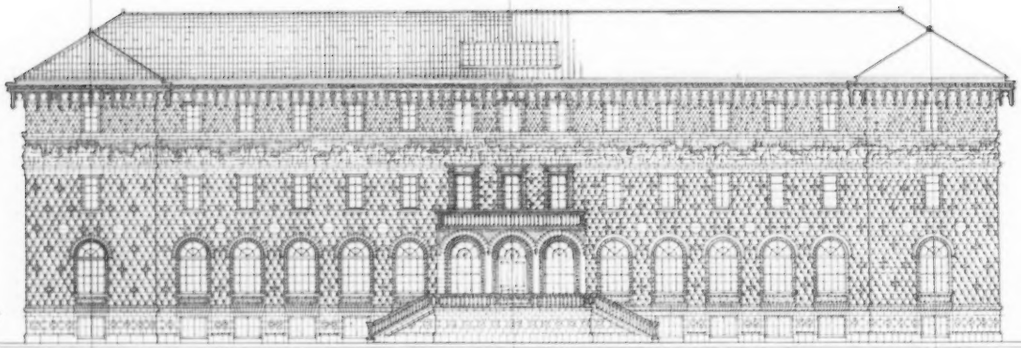


BASEMENT FLOOR PLAN

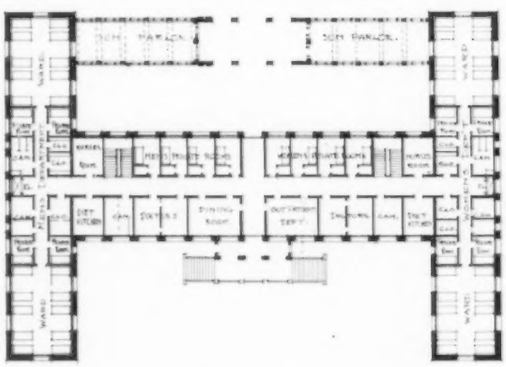
SUBMITTED BY JOSEPH W. DAVIS, JR., WASHINGTON, D. C.



SCALE ELEVATION

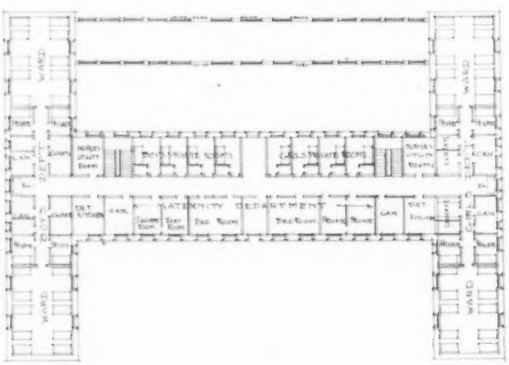
NORTH ELEVATION

SUBMITTED BY



FIRST FLOOR PLAN

SCALE OF PLANS



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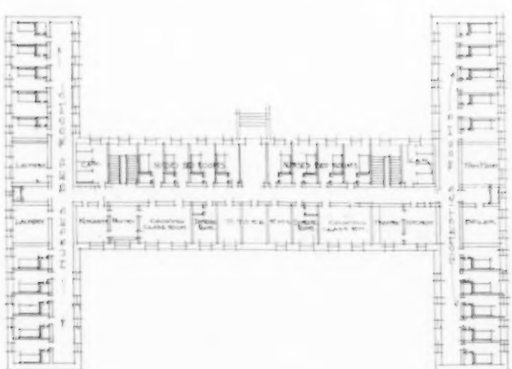
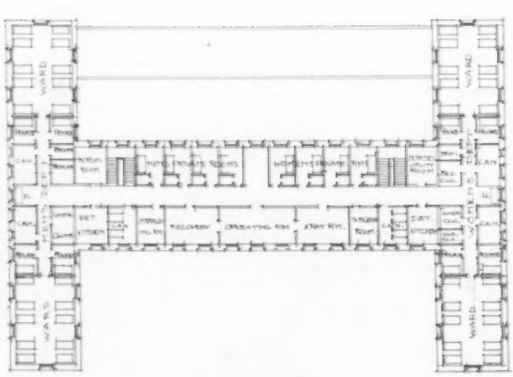
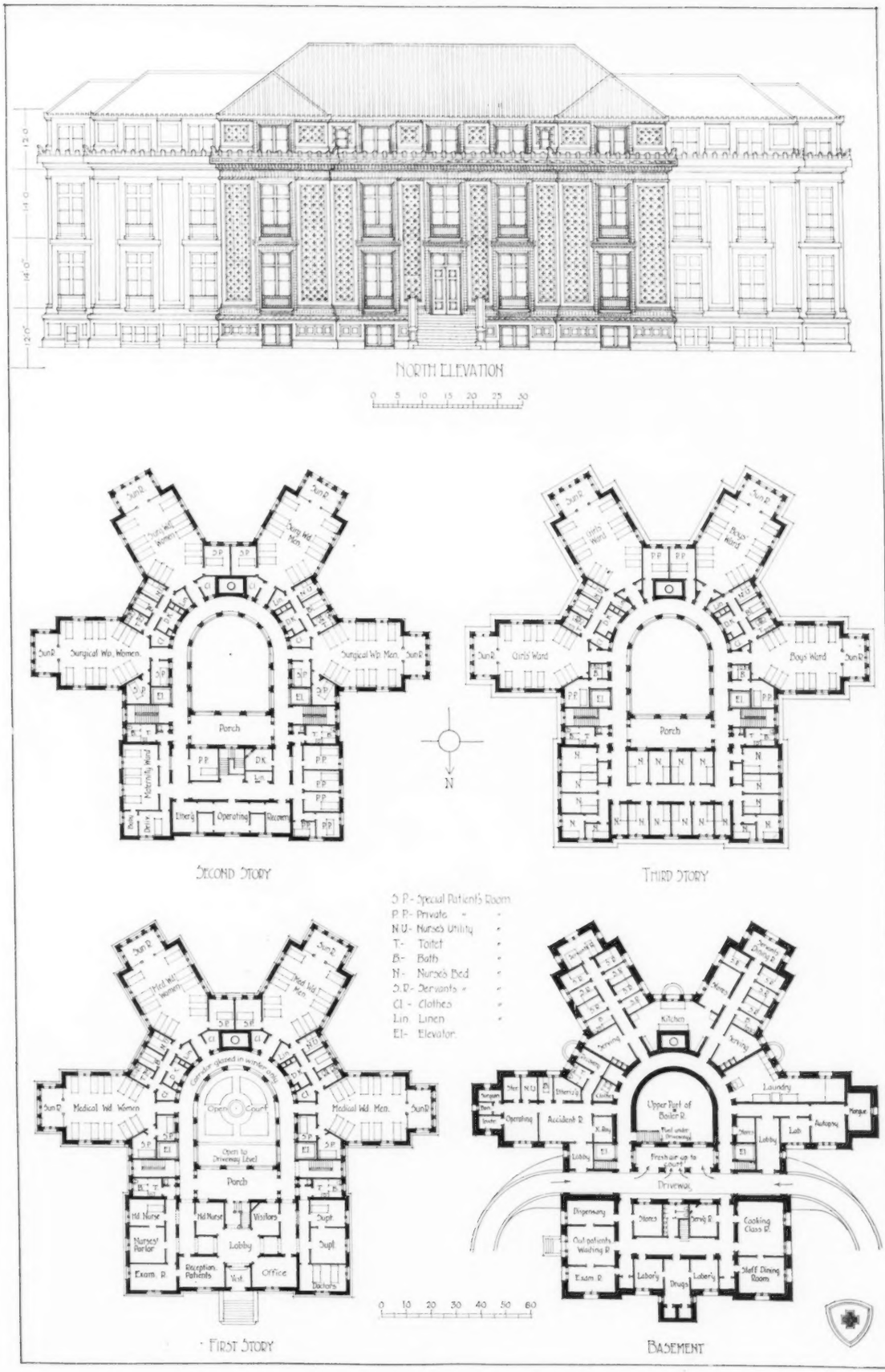


BASEMENT PLAN



THIRD FLOOR PLAN

SUBMITTED BY RALPH S. BUBB, WASHINGTON, D. C.



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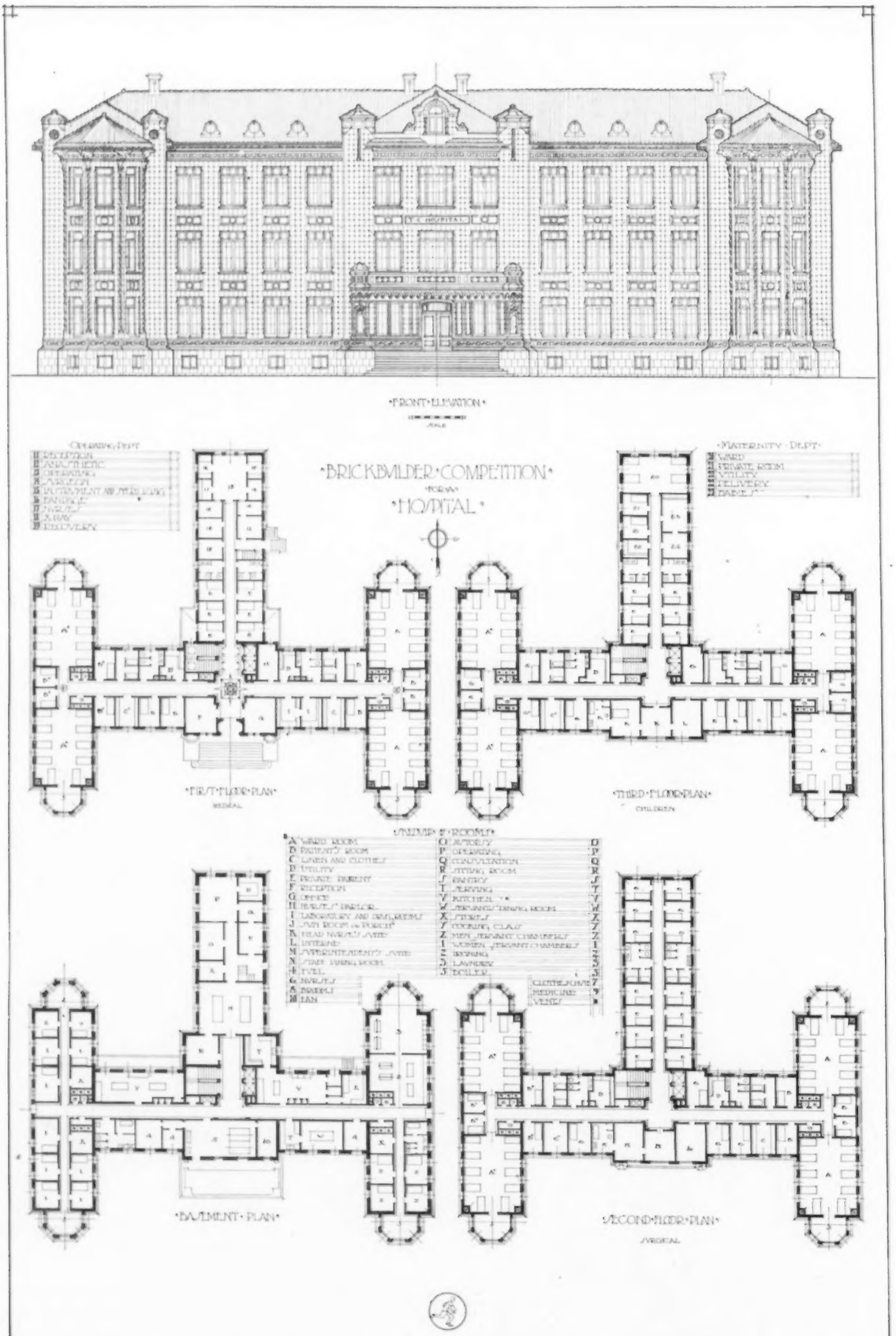
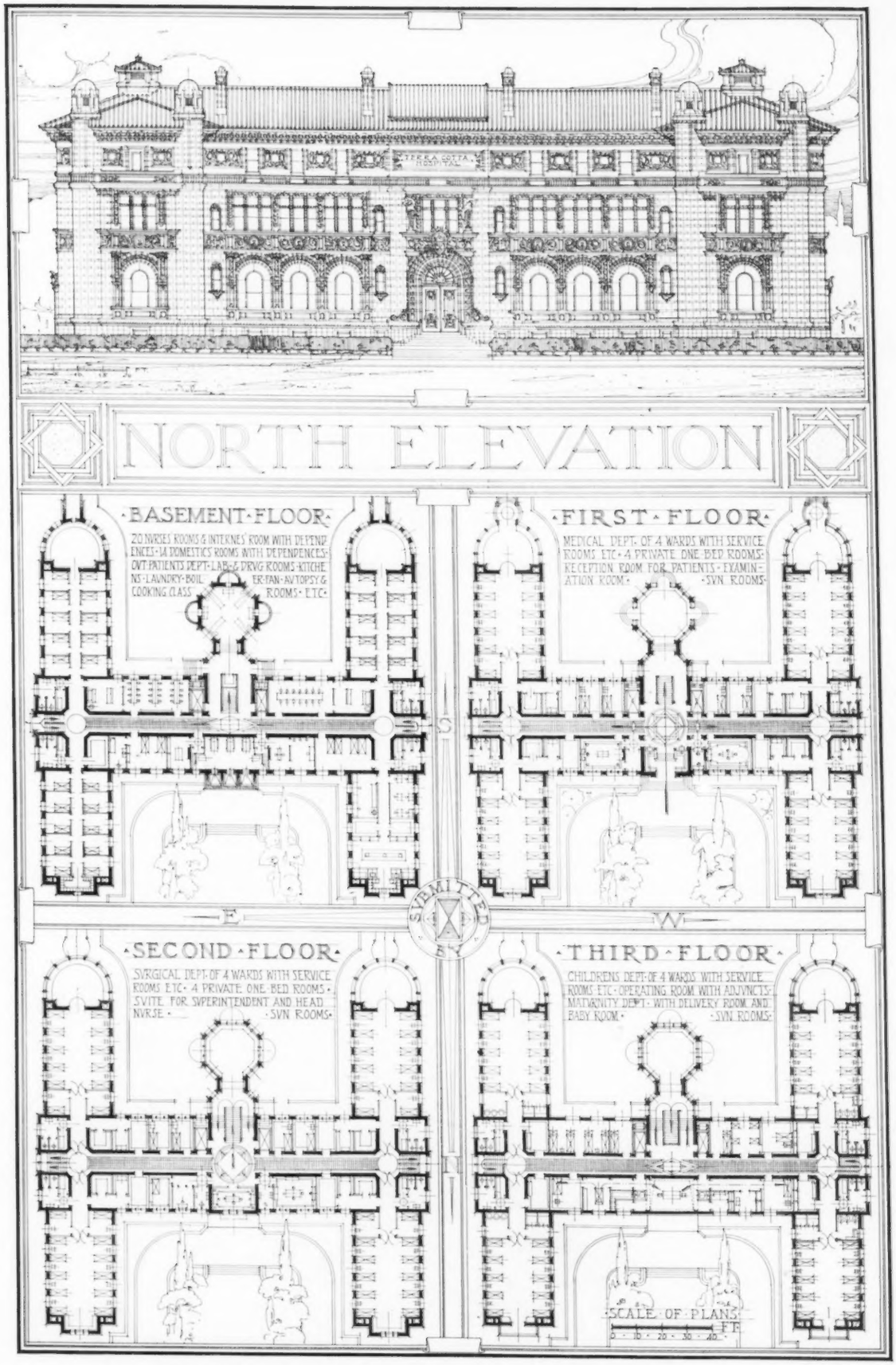


SUBMITTED BY FRANCIS PIERPONT DAVIS AND HENRY F. WITHEY, LOS ANGELES, CAL.


NORTH ELEVATION
BASEMENT FLOOR
20 NVRSES ROOMS & INTERNES' ROOM WITH DEPENDENCES · 14 DOMESTICS' ROOMS WITH DEPENDENCES · OVT PATIENTS DEPT · LAB · & DRVG ROOMS · KITCHENS · LAUNDRY · BOIL ER · FAN · AVTOPSY & COOKING CLASS ROOMS · ETC ·
FIRST FLOOR
MEDICAL DEPT OF 4 WARDS WITH SERVICE ROOMS ETC · 4 PRIVATE ONE BED ROOMS · RECEPTION ROOM FOR PATIENTS · EXAMINATION ROOM · SVN ROOMS ·
E
W
SECOND FLOOR
SVRGICAL DEPT OF 4 WARDS WITH SERVICE ROOMS ETC · 4 PRIVATE ONE BED ROOMS · SVITE FOR SVPERINTENDENT AND HEAD NVRSE · SVN ROOMS ·
THIRD FLOOR
CHILDRENS DEPT OF 4 WARDS WITH SERVICE ROOMS ETC · OPERATING ROOM WITH ADJVNCTS · MATRNITY DEPT · WITH DELIVERY ROOM AND BABY ROOM · SVN ROOMS ·
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SUBMITTED BY WILLIAM SIDNEY WAGNER, PARIS, FRANCE.

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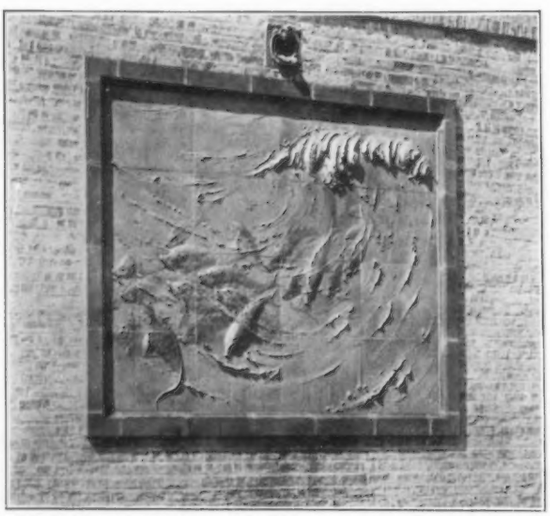

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The accompanying illustration represents the Everett Building, 17th Street and 4th Avenue (Union Square), New York City, Mr. Goldwin Starrett and Mr. Ernest Alan Van Vleck, Architects. George A. Fuller Company, Builders. Entire facing, third to fourteenth stories inclusive, built of Plain Gray, White Mat Enamel and Polychrome Terra Cotta, furnished by the New York Architectural Terra Cotta Company.